


DISTRIBUTION AGE

A CHILTON  PUBLICATION

SEPTEMBER 1956



Two completely *NEW* gas tractors ...by MERCURY



The MERCURY "Huskie" and "Super-Huskie" were designed for rugged service—built to move mountains of material for long, continuous hours. Working either inside or outside, on level ground or on steep grades, in any type of weather, these new models will move your tonnage, regardless of size, shape or weight, for less. Utilize the power of these new models for your material handling operations.



MERCURY *"Super-Huskie"* MODEL 950 - Gas Tractor

Specifically designed for extra-heavy duty, the MERCURY "Super-Huskie" is a 6-wheel model developing a D.B.P. of 5,000 lbs. It incorporates the same features designed into the new "Huskie."

Manufacturers of a Complete Line of
Fork Trucks, Platform Lift Trucks,
Industrial Tractors and Trailers.



MERCURY *Huskie*

MODELS 930 and 940 GAS TRACTORS
4 Wheels—D.B.P. of 3,000 and 4,000 lbs., respectively
AVAILABLE IN LPG OR REGULAR GASOLINE MODELS

- ★ Six cylinder industrial engine—heavy duty clutch—fluid coupling and synchromesh transmission with provision for power take-off.
- ★ Full spring suspension—standard with all MERCURY tractors.
- ★ Smooth, functional body . . . frame, bumpers and fenders welded to form integral unit.
- ★ Unusual accessibility to all component parts.
- ★ Tops in operator comfort.

OPTIONAL EQUIPMENT:

1. L.P. Gas fuel system.
2. Torque converter and planetary transmission providing two speeds forward and one reverse, eliminating clutch pedal.

MAIL COUPON TODAY

MERCURY MANUFACTURING COMPANY
4104 South Halsted Street, Chicago 9, Illinois

Send me the following Mercury Bulletins:

- ☐ T-103—Model 930, "Huskie" Gas Tractor
☐ T-104—Model 940, "Huskie" Gas Tractor
☐ T-105—Model 950, "Super-Huskie" Gas Tractor

NAME _____
ADDRESS _____
CITY _____ ZONE _____ STATE _____
ATTN _____

Famous "RIGHT MOVE"

Reduces Warehousing-Distribution
costs 25% for BEECH-NUT,

Using **LEHIGH SYSTEM**



above: Personal Inspection by Beech-Nut Representative and Lehigh Mgm't.
left: Fully Mechanized Equipment speeds movement of baby foods; coffee

Beech-Nut Packing Co., leading marketer of food products—coffee, peanut butter, baby foods—aims for this paramount objective: to warehouse and distribute its products as efficiently and at closest possible consumption points to metropolitan New York-New Jersey areas. All at **lowest practical cost!**

Before now, Beech-Nut leased fixed space and used common carriers for its complex warehousing-distributing operations in this area.

SPACE NEEDS EXPANDED-CONTRACTED 100% IN 30 DAYS. Due to seasonal packing requirements, space demands changed as much as one hundred per cent in 30-60 day intervals. Since Beech-Nut makes and stocks 85-90 different varieties and packs; ships 35-40 items per order—this created a considerable problem of selection and segregation from stocks. For short periods, and **despite** a fixed space facility, even **more** space had to be engaged.

EXCESSIVE COSTS TO KEEP ADEQUATE STOCK. Further trucking expense was added to consolidate some shipments. Because of the problem of rigid limits to storage and handling space, production from Canajoharie, N. Y. was often restricted or slowed to adjust to warehouse capacities. This was costly and impractical. An improved system was needed.

Beech-Nut wanted an efficient way to reduce costs; an uninterrupted flow of products to consumers, adequate stocks and on-the-spot distribution right to dealer's shelves.

LEHIGH DEMONSTRATES BETTER METHOD: SOLVES PROBLEM. Beech-Nut and Lehigh studied the problem, seeking a solution. A "TRUE COST" analysis of their operating figures, showed that Lehigh could effect substantial savings the first year

and give the more dependable distribution Beech-Nut wanted.

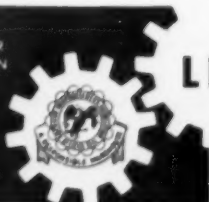
MARKETER GETS FIRST SAVING; PAYS ONLY ON "PER USE" BASIS. How possible? Because Lehigh, as a public merchandise warehouse, offers the economic advantages of "pooled" services. All customers share it. But, the customer is **charged only on a per use basis.** Lehigh provides more economical storage, more economical labor and trucking services than the manufacturer can himself provide. The marketer gets more action . . . efficiency for his distribution dollar!

NO SALES LOST; PROMPT, SURE HANDLING. For Beech-Nut, Lehigh processes from 250-350 selected orders per day. It serves their customers in a radius of about fifty miles from Lehigh's Jersey City and Newark Warehouses. All orders received are processed (clerically) same day; are physically selected, prepared and marked for shipment the following day. Loaded on Lehigh trucks for **fast delivery within forty-eight hrs.** from receipt of order! **Time-money** saved in actual distribution costs . . . far more dependability, plus a **new flexibility** now enables Beech-Nut to keep shelf stocks loaded at all times, with increased sales potentials.

EXTRA BENEFITS GO TO LEHIGH USER. Plus the first gain of economic storage and better trucking. Beech-Nut (or the customer), takes advantage of **lower freight rates** from point of origin to Lehigh's warehouses—with lower common carrier rates in effect on palletized operations. Result? Further savings.

Lehigh strives to help its customers in many ways to **become better marketers.** Perhaps we can serve you equally as well. There could be "good" news when you investigate the Lehigh story. Write for more information! It will pay you, well.

FARED for
OUR BETTER
DISTRIBUTION



LEHIGH WAREHOUSE & Transportation Co.

98-108 FRELINGHUYSEN AVENUE, NEWARK 5, N. J.

SUBSIDIARIES: LACKAWANNA WAREHOUSE CO., INC. — LEHIGH TANK
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HOUSE & TRANS. CO. — PORT NEWARK — VIRGINIA BONDED WAREHOUSE &
TRANS. CO. — LEHIGH HORSEHEAD WAREHOUSE CORP. — LEHIGH ATLANTIC
TERMINAL WAREHOUSE CORP.

Meet Roy Byrd

*A typical driver with
The Mason and Dixon Lines*

Since the man behind the wheel has primary responsibility for your shipment on the road, we thought you might like to meet one of our drivers, and to know more about him and his work.



Roy's day starts early. Before departing, he checks with the dispatcher, accepts bills of lading, and observes weighing of his trailer.



Heading north from Kingsport, Roy's powerful turbodiesel tractor takes mountains with effortless ease.



Always conscious of safety rules and regulations, Roy heeds the sign ahead of him.



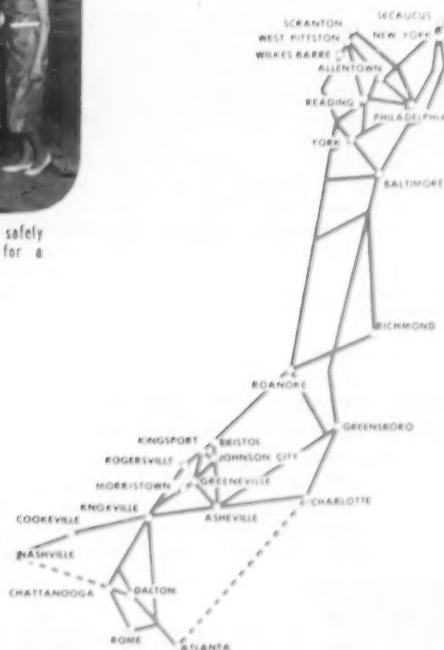
Having arrived at the New Market, Va., Relay Station the night before, where another driver took the trailer on to New York, Roy departs for his return trip with a southbound shipment.



Many hours later, his road trip safely completed, Roy joins his family for a picnic outing.



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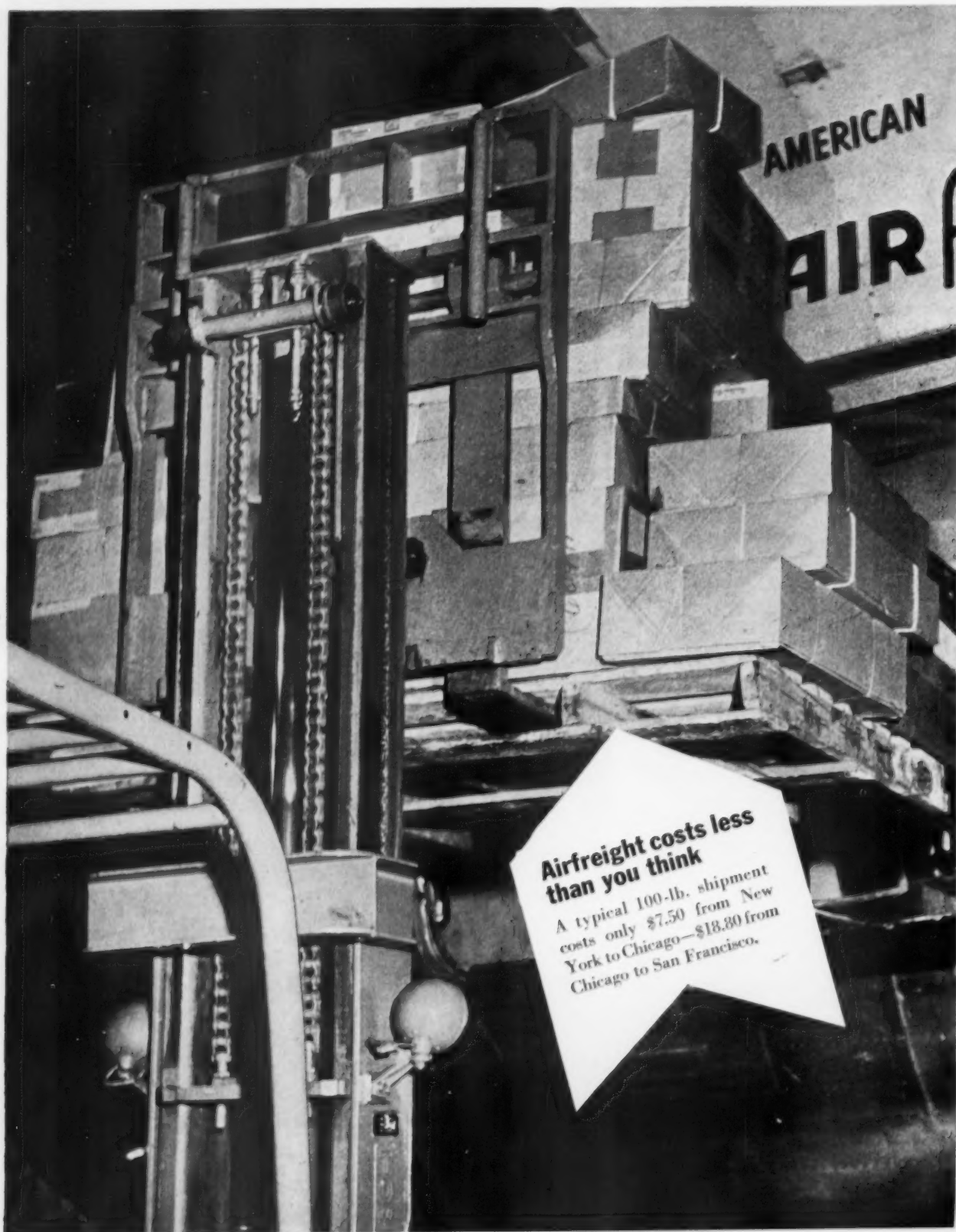
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A REPORT TO MARKETING EXECUTIVES FROM



**Airfreight costs less
than you think**

A typical 100-lb. shipment
costs only \$7.50 from New
York to Chicago—\$18.80 from
Chicago to San Francisco.

AMERICA'S LEADING AIRFREIGHT CARRIER



To make the most of airfreight's ability to provide better handling and faster deliveries, marketing executives are specifying American Airlines Airfreight for these important reasons:

COVERAGE

Only American offers the extra speed of direct one-carrier service to all ten leading retail markets . . . more than two-thirds of the top thirty . . . all twenty-three leading industrial areas in the United States.

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American has space for your shipments when and where it's needed most. A combined daily lift potential of over a half-million pounds gives American the greatest capacity of any airline.

FREQUENCY

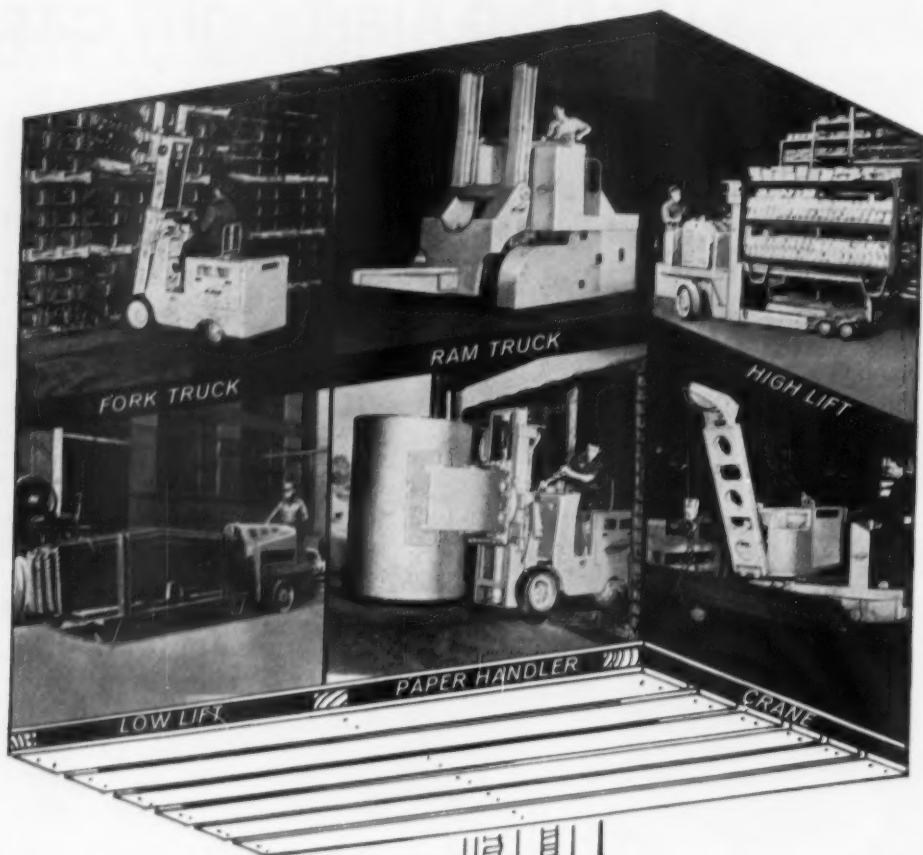
Shipments get faster forwarding . . . spend less time in terminals with American's greater frequency of schedules. Over 1000 departures daily offer more service to more cities than any other carrier.

DEPENDABILITY

First with scheduled airfreight, American today has the largest, most experienced personnel force . . . most modern handling facilities. Is better able to solve shipping problems . . . provide dependable on-time deliveries.

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carries more cargo than any other airline in the world



ELPAR trucks meet **EVERY** need

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FURNISHES ALL TYPES—Elwell-Parker produces not one or two basic trucks, but *every* type needed to solve varying materials handling problems. There are E-P low lift platforms and high lift platform trucks, fork trucks, and mobile cranes . . . available in over 100 different sizes and capacities.

ENGINEERS "SPECIALS"—Not infrequently, the unusual shape or nature of the load requires a *specially designed* truck. Elwell-Parker has pioneered in this field—cutting costs for hundreds of industrial firms where standard trucks will not suffice.



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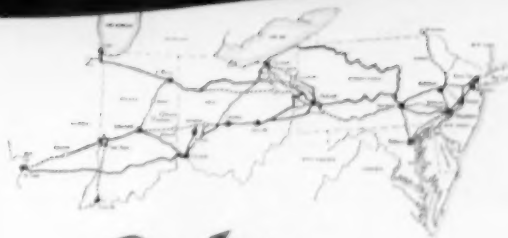
DISTRIBUTION AGE

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that move your goods to market
via Eastern Express, Inc.



The muscles of a modern motor carrier are flexed and ready to serve you at Eastern Express, Inc. Versatile handling equipment, efficient tow-veyor systems, pneumatic tube networks — to reduce in-terminal time to a minimum. Latest design diesel power, radio dispatching and between-terminal teletype service — to guard your goods en route. Whether you ship plastics, metals or perishables, you'll get safer, more dependable service between the Midwest and Eastern Seaboard when you rely on Eastern Express, Inc.



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LOOK AT THE VALUE IN **MOTO-TRUC**

- **Easy Maintenance**
- **Simplified Controls**
- **Greater Maneuverability**
- **Rugged Construction**

As builders of the original "walkie" type truck, Moto-Truc designers have a firm grasp on industry's exacting needs. A rugged, quickly serviced power unit . . . responsive, easy to operate controls . . . extremely heavy, all welded frame construction . . . outstanding load handling ability — all these essential features have been combined into Moto-Trucs — the smallest, most maneuverable "walkie" line available.

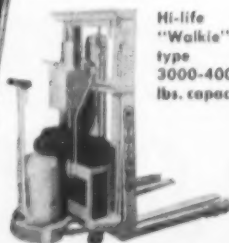
Be sure you're right before you buy. Investigate the complete line of Moto-Trucs — there is a model for every purpose.

Compare Values and
You'll Always Buy
MOTO-TRUC



Write for
complete
information.

Ask for
Bulletin S6W
"Walkie" Models
Bulletin S6R
Ride-A-Man Models



Hi-life
"Walkie"
type
3000-4000
lbs. capacity



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"Walkie"
truck
4000-6000
lbs. capacity



Platform
"Walkie"
type
4,000-
10,000 lbs.
capacity



Grip-All
Tractor



Largest exclusive manufacturers of "Walkies" and Ride-A-Man Trucks

The MOTO-TRUC Co.

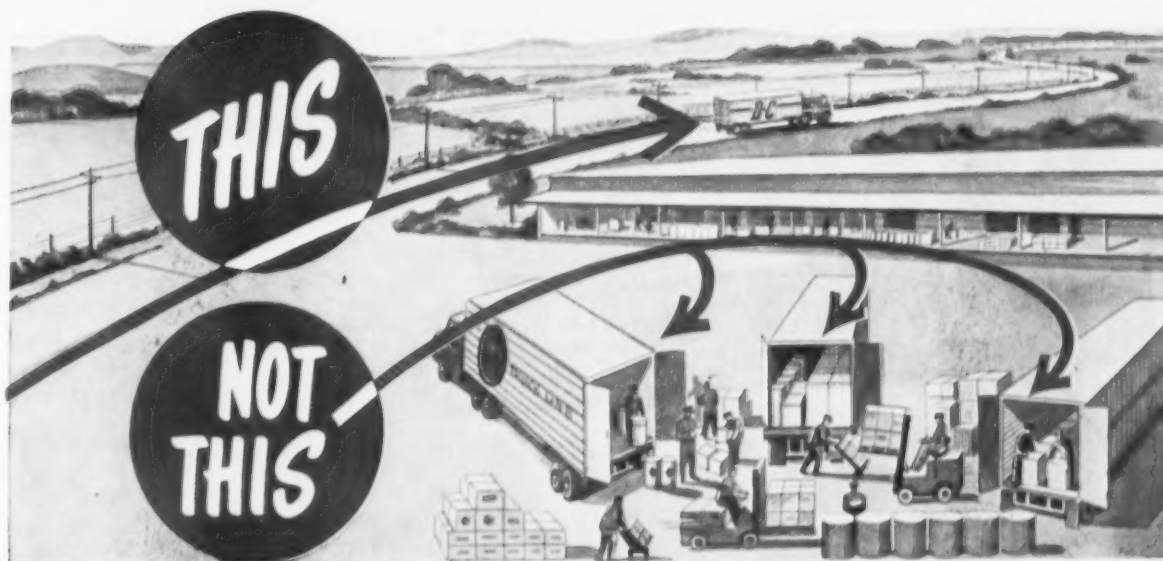
Representatives in Principal Cities

1956 E. 59th St., Cleveland 3, Ohio

Pallet . . . Platform . . . Hi-Lift Truck

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SINGLE CARRIER RESPONSIBILITY ACROSS THE NATION with D.C.



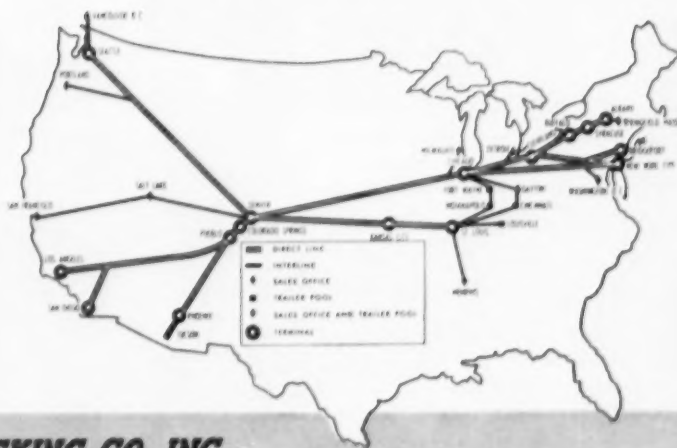
The Only COAST-TO-COAST CARRIER ONE CARRIER

1. Handling
2. Tracing
3. Insurance
4. Safety
5. Delivery Information

Specify

D.C.

Denver Chicago TRUCKING CO., INC.



REO SUPER-V 63 PURRS

**Signal Trucking Service owner and
on grueling daily run**



John E. Carroll established Signal Trucking Service, Ltd. in 1926 with a single truck. Today he operates 700 pieces of equipment, two public warehouses, six contract warehouses and an 11½ acre terminal. Listed among his equipment are 334 Semi's, 110 Trucks, 150 Tractors and 21 Tanker Units. About his new Reos owner Carroll said: "We think it (Reo Super-V 63) is the most truck for the money. We think the 10 Reos are an addition to our fleet about which we can brag. To our slogan, 'Through These Portals Pass the Best Damn Truck Drivers in the World', we can add, 'And the Best Trucks, Too'."

ON 500 MILE GRIND!

drivers praise Reo performance

(22 hrs.) through Imperial Valley!

A big Reo Super-V 63—one of ten Reo's owned by John E. Carroll, President, Signal Trucking Service, Ltd., Los Angeles—makes a daily 22 hour run hauling utility doubles from Los Angeles to Calexico, El Centro and return. This 500 mile circuit through the Imperial Valley with 44,000 lbs. payload is tough going all the way. But the big Reo COE tractor just purrs as it eats up the miles. Takes the steep grades in stride, keeps its maximum legal load rolling smoothly and steadily at all times.

What's more, Reo Super-V 63 keeps up this pace day after day. Two hours after the return trip, the same rig hits the road again.

Signal drivers are as enthusiastic about Reo's superior riding qualities as they are about its power. They like the easy way it handles, too

—especially in city traffic. Reo's "airport flight tower visibility" also gives them a wider, safer view of the road. Owner Carroll says flatly that Reo gives him the most truck for his money.

Fact is the Reo Super-V 63 is the only COE designed throughout to haul today's high volume trailers. It measures only 63" from front-of-bumper to back-of-cab; so it can pull a 35 ft. square nose trailer well within the 45 ft. overall—even with full size sleeping bunkers!

Super-V's are powered by giant 195 and 220 h.p. Gold Comet engines and 160 h.p. Sixes—all backed by Reo's 100,000 Mile or 1 year Warranty. Cummins Turbodiesels are also available. Reo Motors, Inc., Lansing, Mich. and Toronto, Ontario. Subsidiary of Bohn Aluminum and Brass Corporation.



Driver Kenneth King, with 500,000 accident-free miles stated: "I've been driving heavy-duty equipment for 15 years and this is one of the best cabs I've ever had. You can drive 10 hours in this seat and never get tired—that's something in a cab-over."

REO

WORLD'S TOUGHEST TRUCK

San Francisco to Chicago—9¢ a book! Ship UNITED!



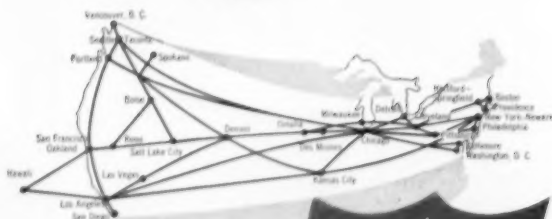
DEALERS' SAMPLE BOOKS leaving San Francisco aboard United's 300-mph DC-6A "Big Lift" Cargoliner arrive in Chicago in just 7 hours! Cost for 100-lb. shipment—\$18.80*

AND YOU GET THESE UNITED "EXTRAS"—Space dependability made possible by Reserved Air Freight. . . On-time dependability, by weather-mapping radar. . . Faster, safer handling, by pre-loaded aluminum pallets. . . Day and night cargo service, by United's frequent Mainliner and Cargoliner schedules.

Examples of United's low Air Freight rates

	per 100 pounds*
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NEW YORK to DETROIT	\$5.90
DENVER to OMAHA	\$6.42
SEATTLE to LOS ANGELES	\$9.80
PHILADELPHIA to PORTLAND	\$24.15
SAN FRANCISCO to BOSTON	\$27.00

*These are the rates for many commodities. They are often lower for larger shipments. Rates shown are for information only, are subject to change, and do not include the 3% federal tax on domestic shipments.



SHIP FAST...SHIP SURE...SHIP



For service, information, or free Air Freight booklet, call the nearest United Air Lines Representative or write Cargo Sales Division, United Air Lines, 36 South Wabash Avenue, Chicago 3, Illinois.

Chuting The NEWS



The Cover

Underwater storage and automated handling have boosted newsprint production at the Calhoun, Tenn., plant of Bowaters Southern Paper Corp. to 165,000 tons a year. The cover scene shows machinery used to deposit and retrieve the logs in and from the storage pond. Two revolving stacking conveyors (foreground) dump the logs into the pond. Grapples suspended from pivoted gantries (upper left) retrieve the stored logs. The complete story can be found on Page 40.

—DA—

Shipper-Motor Carrier Group To Study Seaway Effects

The effect of the St. Lawrence Seaway on import and export trade in the Middlewest area will be studied by the members of the Middlewest Shipper-Motor Carrier Conference at their Fourth Annual Meeting in St. Louis, at the Chase Hotel, Oct. 2-3.

Another highlight of the meeting will be the election of officers. The Nominating Committee, headed by A. F. Bowman, will make its recommendations to the general assembly, after which members will select officers for the new year.

—DA—

The National Safety Council announced recently that the Union Pacific Railroad has been presented the Council's Award of Merit for its excellent safety record during 1955.

'Building People' 10th Anniversary Meeting Theme of American Society of Traffic & Transportation

"Building People" has been selected as the theme of the 10th Anniversary Meeting of the American Society of Traffic & Transportation in San Francisco. The Society will meet Sept. 20-21 at the Fairmont Hotel.

Top industry leaders will develop the theme in a series of addresses, panel discussions, seminars, and floor discussions. Clare J. Goodyear, president, will preside.

—DA—

"Sales of folding paper boxes can increase from \$850 million today to \$1½ billion by 1965," Gustav L. Nordstrom, executive director of the Folding Paper Box Association, told members of the Pacific Coast Paper Box Manufacturers Association at a recent meeting.

—DA—

Pallet Pattern Selection Outlined in Navy Report

A new graphic method for quick selection of patterns for loading 20,000 sizes of containers on 40 x 48-in. pallet has been devised by the Navy and published in a report available to industry through the Office of Technical Services, U. S. Department of Commerce.

Six master charts present 172 pallet patterns applicable to containers graduated in increments of 1/8 in. with lengths of 6 to 52 in. and widths of 5 to 43 in. Alternate container sizes also can be determined.

The 140-page report, PB 111845 "Container Size and Pallet Pattern Selection Criteria for Use on 40 x 48-in. Pallets," J. P. Akrep and S. Stambler, U. S. Naval Research and Development Facility, Dec. 1955, may be ordered from OTS, U. S. Department of Commerce, Washington 25. Price \$3.

—DA—

The 20th Annual Meeting of the National Association of Shippers Advisory Boards will be held at the Ambassador Hotel, Los Angeles, Oct. 16-18. (Please Turn Page)

Speakers will include D. J. Russell, president of the Southern Pacific Co.; R. E. S. Deichler, of American Airlines; George Killion, president of American President Lines; Neil J. Curry, president of California Cartage Co.; F. B. Whitman, president of Western Pacific Railroad Co., and T. C. Drinkwater, president of Western Air Lines.

An industry panel moderated by K. H. Jamieson, gen. mgr. of Eastman Kodak Co., will include W. S. McCord, Personal Products Corp.; C. A. Efferson, Kaiser Aluminum & Chemical Corp.; Brig. Gen. E. C. R. Lasher, Military Traffic Management Agency, and Joseph Trickett, Food Machinery & Chemical Corp.

E. G. Plowman, vice president-traffic, United States Steel Corp., will moderate an educational panel. He will be assisted by H. L. Carlston, University of Utah; Richard Donham, Northwestern University, and Elmore Petersen, University of Colorado.

Chuting the News . . .

(Continued from Preceding Page)

Trip Lease Bill Signed Into Law by President; Controversial Measure Amends the IC Act

Trip Lease Bill, S898, completed a rough trip through this year's Congress by being signed into law early last month. This leaves the ICC free to revise its now postponed leasing regulations and hold them up for public inspection.

The new law amends the Interstate Commerce Act by adding Subsections (e) and (f) to Section 204. Wording, in part, is as follows:

"(e) Subject to the provisions of subsection (f) hereof, the Commission is authorized to prescribe, with respect to the use by motor carriers (under leases, contracts or other arrangements) of motor vehicles not owned by them, in the furnishing of transportation of property—

"(1) regulations requiring that any such lease, contract, or other arrangement shall be in writing and be signed by the parties thereto, shall specify the period during which it is to be in effect, and shall specify the compensation to be paid by the motor carrier, and requiring that during the entire period . . . a copy thereof shall be carried in each motor vehicle covered thereby; and

"(2) such other regulations as may be reasonably necessary in order to assure that while motor vehicles are being so used the motor carriers will have full direction and control of such vehicles and will be fully responsible for the operation thereof in accordance with applicable law and regulations, as if they were the owners of such vehicles, including the requirements prescribed by or under the provisions of this part with respect to safety of operation and equipment and inspection thereof, which requirements may include but shall not be limited to promulgation of regulations requiring liability and cargo insurance covering all such equipment.

"(f) Nothing in this part shall be construed to authorize the Commission to regulate the duration of any such lease, for the use of any motor vehicle, with driver, or the amount of compensation to be paid for such use—

"(1) where the motor vehicle so to be used is that of a farmer or of a cooperative association or a federation of cooperative associations, as specified in section 203 (b) (4a) or (5), or

is that of a private carrier of property by motor vehicle as defined in section 203 (a), (17) and is used regularly in the transportation of property of a character embraced within section 203 (b) (6) or perishable products manufactured from perishable property of a character embraced within section 203 (b) (6), and such motor vehicle is to be used by the motor carrier in a single movement or in one or more of a series of movements, loaded or empty, in the general direction of the general area in which such motor vehicle is based; or

"(2) where the motor vehicle so to be used is one which has completed a movement covered by section 203 (b) (6) and such motor vehicle is next to be used by the motor carrier in a loaded movement in any direction, and/or in one or more of a series of movements, loaded or empty, in the general direction of the general area in which such motor vehicle is based."

Railroads Reply to Protests on Increased Demurrage Rates

The nation's railroads filed on Aug. 16 their reply to the more than 200 protests and requests for suspension of increased demurrage charges and amended rules, scheduled to become effective Sept. 1.

In reply to the many allegations that car shortages are attributable to dereliction of the railroads in maintaining and augmenting their freight car fleet, the answer points out that in 1954 railroad traffic fell off with the result that for that entire year there was an average daily surplus of 90,975 freight cars.

"The lack of funds and an expiration date on Ex Parte 175 rate increases, along with the surplus of cars then existing operated to materially curtail railroad commitments for acquisition of new equipment and the programs for repair of cars," according to the railroads.

A Long Way Up



One of the largest elevators ever built looks like this from an underneath view. Installed in the new Coliseum, completed this year in New York, it has a lifting capacity of 75,000 lb. Three hydraulic jacks raise the 15 x 48-ft elevator car, which will accommodate a fully-loaded highway tractor-trailer unit. The elevator has a rise of 62 ft, 6 in., serving four floors in the Coliseum exhibition hall. The elevator was built by Rotary Lift Co.

Club Briefs

The National Export Traffic League has re-elected Gordon H. Rennie of Vick Chemical Co., as president. Other officers are: R. J. Lerch and M. Devincenzo, vice presidents; R. G. Carpenter, treasurer, and F. J. Meade, executive secretary.

Miss Bernice Miller, of Joyce Brothers Storage & Van Co., has been inducted as president of the Women's Traffic Club of Chicago. Other officers are: Bernice DuJardin, 1st vice president; Agnes Dietrich, 2nd vice president; Lorraine Anderson, recording secretary; Harriet McSweeney, corresponding secretary, and Chrystal Ryan, treasurer.

At its last meeting the Los Angeles Transportation Club celebrated its Seventh Annual Steamship Day.

Chester C. Thompson, president of the American Waterways Operators, Inc., will address the Sept. 24 meeting of the Traffic Club of New Orleans.

The Southeast Traffic Club, of Los Angeles, conducted its Annual Educational Night on Aug. 23.

The Northeast Ohio Division, SIP-MHE, will conduct a Packaging and Materials Handling Competition on Sept. 28.

Wheels Within Wheels



This new Piggy-Back Service Corp. invention was demonstrated recently in the Boston yards of New York, New Haven and Hartford Railroad. The tractor has been equipped with front and rear flanged wheels in addition to its regular road wheels. The flanged wheels enable the tractor to ride the I-beam rails of a new type flat car, thus providing the motive power for the end-loading or unloading of trailers on the flat cars. The combination of the flanged-wheel equipped tractor and the new flat car, designed and supplied by Piggy-Back Service Corp., permits faster and more economical handling of trailers. The rear flanged wheels of the tractor are of smaller diameter than the unit's road wheels, but operate concentrically with them and the brake drums

Piggy-Boat Improvement



A new device which will double the speed of loading and unloading of truck trailers on trailerships and eliminate the need for tractors to move them, was demonstrated recently by TMT Trailer Ferry, Inc. The new device will be installed on the "TMT Carib Queen," world's largest self-propelled trailership, which is scheduled for launching in October. The Trailerloader system consists of two parallel guide rails slightly wider than a truck trailer body. Within the guide rails there is a double track running the length of the deck. Four tracks will be imbedded in each of the lower and middle decks, with an endless cable located in the center of the tracks, which can be operated to run the trailers forward or backward. Truck trailers are loaded at the front of the track on a specially designed dolly rabbit and then are pulled by endless cable to the allocated space

A Yearbook and Industry Handbook will be published for the first time by the Produce Packaging Association in conjunction with its Sixth Annual Conference and Exposition, Sept. 23-26 in Miami Beach, Fla.

—DA—

Assn. of Port Authorities Meets in Philadelphia Sept. 18

Key port and shipping industry representatives from the United States, Canada, and Latin America, and guests from other foreign countries will convene in Philadelphia for the 45th Annual Convention of the American Association of Port Authorities, Sept. 18-21.

In addition to more than 300 member delegates from the Western Hemisphere and observers from Eastern Hemisphere countries, the Armed Forces and the Federal Government will be represented by keynote speakers.

Eastern Industrial Traffic League to Meet Oct. 17-18

The Sixth Annual Meeting of the Eastern Industrial Traffic League will be conducted at the Military Park Hotel, Newark, N. J., Oct. 17-18. Walter W. Weller, president of the League, will preside.

The program will include Board of Directors and general membership meetings, panel discussions, and conducted tours of the Newark Airport and Port Newark. Albert L. King, director of Marine Terminals, Port of New York Authority, will speak.

—DA—

Highway users of the nation paid a record \$4,025,693,000 in state highway use taxes in 1955, according to reports recently released by the U. S. Bureau of Public Roads. This is \$385,794,000 or 10.6 per cent above the 1954 total of \$3,639,899,000.

ATC Contest Winner Named; New Contest Announced

The Fourth Associated Traffic Clubs of America Essay Contest, having as its subject "Ideas for Interesting Club Meetings," was won by Miss Virginia Colombo, of the Women's Traffic Club of San Francisco.

Miss Colombo's suggestions were based on successful meetings conducted under the guidance of three special committees—Research, Program, and Entertainment. She pointed out that by placing club activities in the hands of three committees, interest is stimulated among the greatest percentage of all members.

At the same time, the ATC announced a Fifth Essay Contest, with the subject to be "Opportunities in Industrial Traffic Management." The subject was chosen to provide answers to the questions of young people contemplating careers in industrial traffic management.

Contestants must be members of ATC-affiliated traffic clubs. Closing date is Oct. 15. Entries should be sent to A. W. Greene, Industrial Traffic Advancement Committee, Associated Traffic Clubs of America, Chilton Bldg., Chestnut & 56th Sts., Philadelphia 39, Pa.

—DA—

ATA Adopts Policy to Reduce Mobile Radio Interference

A new policy designed to reduce interference on channels assigned to motor carrier radio service has been put into effect by the American Trucking Associations' Communications Committee.

Under the plan, five frequencies of the channels allotted to motor carriers will be reserved for mobile units only. The committee will no longer recommend base station units for assignment on these five frequencies. Committee recommendations generally are needed before Federal Communications Commission authorizations are issued.

(Please Turn to Page 21)



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Having organized his present company in 1932, Carl knows full well the importance of a strong, co-operative nationwide moving service. He also knows the importance of a strong motor freight industry. That's why you will find him one of the most active members of the Colorado Motor Carriers Association, an organization which takes up all the time that his own business and Atlas Van-Lines leaves him. It's no wonder, that Carl Lind and his 24 year old Globe Moving and Storage Company enjoys such a superb reputation with customers, fellow members of Atlas and in the transportation field, generally.



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high-speed
handling
in narrow
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9' 10" Stacking Aisle

3000-4000 LB. CAPACITY SIT-DOWN ELECTRIC TRUCK IN INDUSTRY

The Yale K51W is engineered to incorporate big truck features . . . for fast narrow-aisle operations



Smooth time delay speed control through Yale Magnetic Cam-O-Tactor.



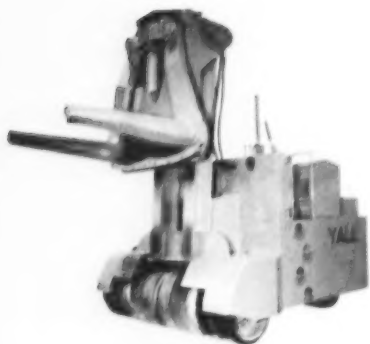
Better operator visibility through low cowl and open channel design.



50' per minute lifting speed—6 1/2 m.p.h. travelling speed—inch control.

✓ **CHECK** These Outstanding Yale Engineering Features

- ✓ **"Dead Man" Control** automatically shuts off power and applies brakes when operator leaves the truck.
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- ✓ **Full 110 Sq. Inch Braking Surface** equals that of higher capacity trucks . . . gives you the same reliable stopping power.
- ✓ **Side Thrust Rollers** on both carriage and channel minimize friction with over-center loading when lifting and lowering loads.
- ✓ **All Motors** have class H silicon insulation for greater protection against high temperatures.



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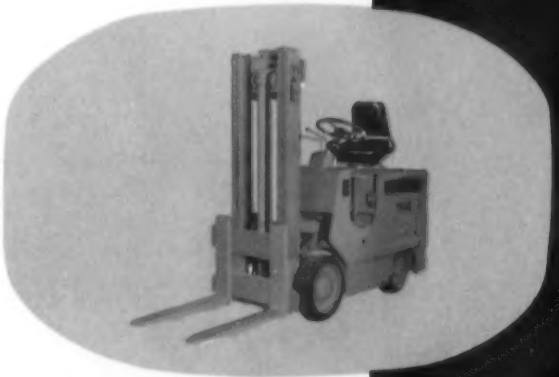
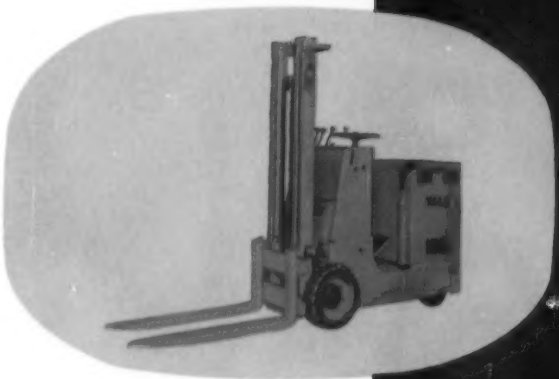
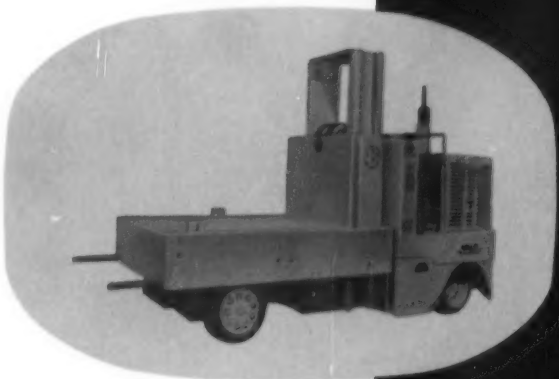
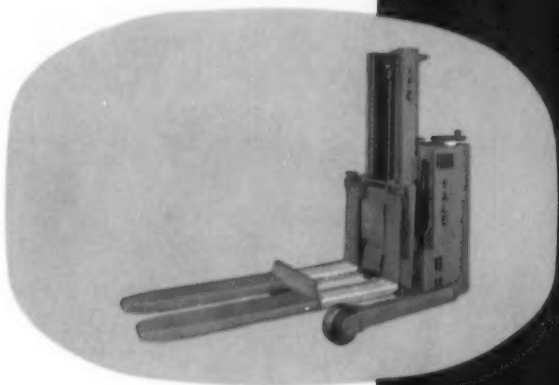
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TRUCKS AND HOISTS

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Chuting the News . . .

(Continued from Page 15)

News Briefs

Jackson Corrugated Box Corp., of Jackson, Mich., has joined the **Fibre Box Association**.

July tonnage over **Port of San Francisco** piers registered a gain of 104,000 tons over the same month last year, according to the Port director.

Denver Chicago Trucking Co., Inc., of Denver, has announced purchase of the interstate operating authority of the **Hennepin Transportation Co.**, of Minneapolis between Chicago and Detroit, including several intermediate points.

Port dockage and wharfage charges were equalized for the first time among all California public ports and terminals last month, when **Southern California** port cities adopted a uniform system of rates and regulations.

A new combination air and sea shipping service designed to speed imports into the United States has been established through an agreement between **Pacific Transport Lines, Inc.**, San Francisco, and **American Airlines, Inc.**

Clark Equipment Co. has received **Underwriters' Laboratories** listing for type "EE" construction for its **Powrworker** pallet truck, **Powrworker** platform truck, and 12-volt **Tugger** towing tractor.

Railway Express Agency has announced international surface transportation system with a one-carrier responsibility directly linking shippers and receivers throughout the United States with those at important origin and destination points throughout the world.

A unique attack on the problems of a basic industry will begin October 5, when the **Transportation Center at Northwestern University** launches its national program of research, education, and service.

Orange Transportation Co. and **Collett Tank Lines**, of Salt Lake City, have been merged into **Pacific Inter-mountain Express Co.**, Oakland, Calif.

Tonnage of intercity general freight transported by truck during June, 1956, was up 5.8 per cent over the volume hauled in June 1955, and down less than one per cent from that hauled during May, 1956, it has been announced today by the **ATA**.

The American University, in Washington, D. C., will conduct its 10th **Air Transportation Institute** from Oct. 16 through Nov. 2.

The Material Handling Institute has selected June 9-12, 1959, and Cleve-

land, Ohio, as the time and place for the **Material Handling Institute's Exposition of 1959**.

The Truck-Man Division of the **Knickerbocker Co.** and **Tubular Structures Corp.** of America have joined **The Material Handling Institute**.

A purchase agreement, under which **Consolidated Freightways** would acquire a portion of the assets of **Martin Transfer Co.**, has been announced.

TMT Trailer Ferry, Inc., has announced that it will provide temporary on-call truck-trailership service for shippers of general cargo from **Savannah, Ga.**, and **Charleston, S. C.**, to **San Juan, Puerto Rico**.

Plans to open a new manufacturing plant at **Sao Paulo, Brazil**, in South America, have been announced by **Hyster Co.**, of **Portland, Ore.**

Southern Pacific Transport Co., **American Airlines**, **Braniff International Airways**, and **Slick Airways** have entered into an agreement to provide integrated truck-air freight service in certain Texas cities.

—DA—

One hundred and one trucking industry heads have been elected members of the National Classification Committee of the ATA.

Cross-Dock Speed-Up



The Denver Chicago Trucking Co. has announced installation in their **Chicago Terminal** of a chain-in-floor truck-dragging system, called the largest of its kind in the country. This system serves the entire DC dock area and completely mechanizes the handling of freight. The result is greatly increased speed and efficiency in moving freight into and out of Chicago.

Four trade associations of materials handling equipment manufacturers will hold fall meetings at the Traymore Hotel in Atlantic City, October 9-12. Associations included in the joint industry meetings are The Material Handling Institute, The Industrial Truck Association, The Monorail Manufacturers' Association, and the Association of Lift Truck and Portable Elevator Manufacturers.

LEGISLATIVE BOX SCORE

—What Congress Did for Business This Year—

Legislation	Passed by House	Passed by Senate	Signed by Ike
Disaster (Flood) Insurance	Yes	Yes	Yes
Highway Construction	Yes	Yes	Yes
Federal Highway Administrator	Yes	Yes	Yes
Highway Laws (Codification)	No	Yes	Yes
Nuclear-Powered Ship	Yes	No	Yes
Postal Rate Increase	Yes	Yes	Yes
Rail & Road Route Survey (Alaska)	Yes	Yes	Yes
Shipbuilding Capability Survey	Yes	Yes	Yes
Ship Construction (Insurance)	Yes	Yes	Yes
New-Type Merchant Ships	Yes	Yes	Yes
Ship Mortgages	No	Yes	Yes
Section 22 Rate Repeal	No	Yes	Yes
Terminal Markets	No	Yes	Yes
Transport Policy	No	Yes	Yes
Trip Lending	Yes	Yes	Yes
Phantom Freight	No	Yes	Yes
Taxes—No Cut	Yes	Yes	Yes
Contract Renegotiation	Yes	Yes	Yes
Industrial Pricing Control	Yes	No	Yes
Defense Production Act Extension	Yes	Yes	Yes
Export Control Act	Yes	Yes	Yes
Funds for Defense	Yes	Yes	Yes
Social Security Expansion	Yes	Yes	Yes

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Beginning with the U.P. man who contacts you, there are legions of employees who have been trained to expedite your freight shipments; to see that they are loaded properly, handled care-

fully and transported promptly to your customer. We have the men, equipment and facilities to give you A-1 service. To set the wheels in motion, call your nearest U.P. representative.

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NEW

1957 L-S
SPACEMASTER

MODEL "E"

ELECTRIC FORK TRUCK

Capacities to 4000 lbs.

NEW ELEVATING ASSEMBLY
for higher lift!

The new L-S Model "E" Electric features a new, improved elevating assembly to give more lift for a given collapsed height. The reinforced channel outer mast, and specially rolled I-beam inner mast, add extra strength and stability . . . reduce twist and sway at full lift heights.

NEW HIGH PRESSURE HYDRAULIC SYSTEM
for smoother, faster lift speeds!

The high-pressure hydraulic system designed by Lewis-Shepard for the new Model "E" increases lift speeds 25% . . . and with *no increase* in battery consumption per lift. This new hydraulic system offers another important advantage—smaller, more compact truck design . . . with greater maneuverability for narrow-aisle operation.

NEW RECESSED-IN-CAB CONTROLS
for operating ease and safety!

In the new Model "E", all controls are located inside the cab to make operating easier and more comfortable. Recessed 'fingertip' control of levers is more efficient . . . safer, too, because operator's hands are protected at all times.

To assure smooth stops and starts, the *new* Model "E" has magnetic controls with timed acceleration and dynamic braking. The popular center control Stand Rest driving position has been proved the safest, most comfortable driving stance.

These are only a few of the many design features and advantages which this new L-S Electric offers. Mail coupon today for Catalog 32-1 on the all-new L-S Model "E" Electric.

Here's Proof of L-S Model "E" Electric Dependability
55.7% of the recent orders for Model "E" Electrics were repeat orders from satisfied users already owning Model "E" Electrics. A few are as follows:

Electrical Goods Mfr.	86 in use	reordered 9
Motor Express	21 in use	reordered 10
Office Supply Mfr.	17 in use	reordered 2
Refrigeration Plant	10 in use	reordered 4
Food Chain	3 in use	reordered 7



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Company _____

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President



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Choose a strategic Chicago location

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2. SOUTH SIDE, all rail lines; 100,000 sq. ft. space of unlimited floor load in ONE STORY; trucks and freight cars loaded and unloaded inside.
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Men in the News

Traffic

Richard M. Regan—appointed Eastern traffic manager, Minnesota Mining & Mfg. Co., St. Paul, Minn.

Edmund A. Senghas—named assistant general traffic manager, National Biscuit Co., New York, N. Y.



Leon W. Morse—appointed general traffic manager, Caloric Appliance Corp., Topton, Pa.

Thomas E. McCardell—appointed transportation economist, Transportation and Communication Dept., U.S. Chamber of Commerce.

Edward A. Guldaman—new assistant traffic manager, Frontier Chemical Co., div. Union Chemical & Materials Corp.

Edwin F. Mundy—named general traffic manager, National Biscuit Co., New York, N. Y.



Lars Roose—named traffic manager, Lederle Laboratories, div. American Cyanamid Co., Pearl River, N. Y.

Gordon W. Graham—appointed export manager, Dole Hawaiian Pineapple Co., Marketing Div., Honolulu.

Ralph E. Benzaquen—named export traffic manager, L. Sonneborn Sons, Inc., New York, N. Y.



Chester H. Colyer—appointed manager, Traffic and Transportation, Oneida Ltd., Sherrill, N. Y.

Glenn B. Miller—appointed traffic manager and **Daniel G. Donovan**, assistant traffic manager, Crucible Steel Co. of America, Pittsburgh, Pa.

William V. McLaughlin—new general traffic manager, Burnham Corp., Irvington, N. Y.

William W. Janney—appointed manager, Export Department, National Vulcanized Fibre Co., Wilmington, Del.

William A. Weber—new assistant general traffic manager, Aluminum Co. of America, Pittsburgh, Pa.

John K. Truitt—new director of traffic, Champion Paper & Fibre Co., Hamilton, Ohio, succeeding **Harry T. Ratliff**, now honorary director of traffic.

Willard S. Clepper—appointed manager, warehouse and shipping, The B. F. Goodrich Co., Akron, Ohio.



Earl R. Gardner—named manager, Traffic Department of Akron Chamber of Commerce, Akron, Ohio.

Charles H. Mayhood—appointed official adviser to United Nations Committee on Transport of Dangerous Goods.

Thomas A. Corcoran—appointed manager, Import of The Judson Sheldon Div., The National Carloading Corp., New York, N. Y.

Mrs. Margaret Britton—new supervisor of traffic, The Baker Castor Oil Co. of New York, N. Y.

Ralph C. Wilgus—named traffic manager of Carrier Corp., Syracuse, N. Y.

S. A. Brigam—promoted to traffic manager, Rate and Audit Div.; **R. J. Hoskins**, to traffic manager, Passenger and Claims Div.; **C. C. Harless** to traffic manager, Coordination Div.; and **D. F. Brain** to traffic manager, Import and Export Div., Goodyear Tire and Rubber Co., Akron, Ohio.

Transportation—Air

K. C. Jones—named director of public relations, United Air Lines, Chicago, Ill.



Samuel C. Dunlap—elected vice president, cargo, American Airlines, Inc., N. Y.

John E. Muhfeld—appointed vice president in charge Sales and Traffic, Slick Airways, Inc., Burbank, Calif.

—Highway

R. H. Gillespie—appointed fleet sales manager, GMC Truck & Coach Div., General Motors Corp., Pontiac, Mich.

Charles J. Calvin—new assistant managing director, Truck-Trailer Manufacturers Association, Washington, D.C.

Henry D. Moyle—elected a member of the board of directors, Consolidated Freightways, Inc., Menlo Park, Calif.

Dr. James W. Bennett, Jr.—named to Educators Advisory Committee, ATA National Committee on Education.

Coming Events

Sept. 10-13—National Truck Leasing System, Annual Meeting, Chicago, Ill.

Sept. 11-14—Packaging Machinery Mfr's. Institute, Packaging, Machinery & Maintenance Exposition of 1956, Public Auditorium, Cleveland, Ohio

Sept. 13-15—Southeastern Warehousemen & Movers' Assn., Annual Convention, Balmoral Hotel, Miami Beach, Fla.

Sept. 14—National Furniture Warehousemen's Assn., Fifth Annual Operating Conference, Southeastern Region, Balmoral Hotel, Miami Beach, Fla.

Sept. 17-19—Industrial Relations Forum, ATA, Annual Meeting, San Francisco.

Sept. 17-21—11th Annual International Instrument-Automation Conference & Exhibit, New Coliseum, New York, N. Y.

Sept. 18-21—American Assn. of Port Authorities, 45th Annual Meeting & Convention, The Bellevue-Stratford Hotel, Philadelphia, Pa.

Sept. 19-21—National Small Shipments Traffic Conference, Inc., Annual Meeting, Chicago, Ill.

Sept. 20-21—American Society of Traffic & Transportation, 10th Anniversary Meeting, Fairmont Hotel, San Francisco, Calif.

Sept. 23-26—Produce Packaging Assn., Sixth Annual Conference & Exposition, Miami Beach, Fla.

Sept. 25—Southwestern Industrial Traffic League, Little Rock, Ark.

Sept. 25—Transportation Assn. of America, Transportation Institute, Kansas City, Mo.

Oct. 8-12—National Motor Freight Traffic Assn., Inc., Washington, D. C.

Oct. 9-10—Fibre Box Assn., Annual Meeting, Waldorf-Astoria Hotel, New York

Oct. 10-11—The Material Handling Institute, Inc., Fall Meeting, Traymore Hotel, Atlantic City, N. J.

Oct. 9-11—Armed Forces Military-Industry Symposium on Packaging & Materials Handling, Washington, D. C.

Oct. 13-14—Delta Nu Alpha Transportation Fraternity, Inc., Annual Meeting, Chicago, Ill.

Oct. 14-17—National Defense Transportation Assn., Annual Convention Hotel Newhouse, Salt Lake City, Utah

Oct. 16-18—National Assn. of Shippers Advisory Boards, Ambassador Hotel, Los Angeles, Calif.

Oct. 17-18—Eastern Industrial Traffic League, Annual Meeting, Military Park Hotel, Newark, N. J.

Oct. 17-23—Regular Common Carrier Conference, ATA, Waldorf-Astoria Hotel, New York, N. Y.

Oct. 19—National Furniture Warehousemen's Assn., Fifth Annual Operating Conference, West-Central Region, Hotel Utah, Salt Lake City, Utah

Oct. 21-26—American Trucking Assn., Annual Meeting, Waldorf-Astoria Hotel, New York, N. Y. (Executive Committee, Oct. 21-24.)

Oct. 22-25—SIPMHE, Annual Convention, Exposition, Short Course & Competition, Keil Auditorium, St. Louis, Mo.

Oct. 22-26—National Safety Congress & Exposition, 44th Meeting, Chicago, Ill.

Oct. 23—National Furniture Warehousemen's Assn., Fifth Annual Operating Conference, Southwestern Region, Statler-Hilton Hotel, Dallas, Tex.

Oct. 24-25—Associated Traffic Clubs of America, 33rd Annual Meeting, Miami Beach, Fla.

Nov. 15-16—National Industrial Traffic League, Annual Meeting, New York, N. Y.



The same trucks that do the stacking also transport appliances from end of assembly line to storage, and from storage to loading docks. Two-way radio dispatch system expedites movement.

13 BAKER TRUCKS give General Electric Appliance Park "floor-to-ceiling" utilization of warehouse space!

Every cubic foot of storage space in this mammoth appliance warehouse is utilized by compact stacking. Baker Trucks, equipped with a special lift attachment that handles cartons or crates without forks, help do the job.

General Electric has a fleet of 13 such trucks at this installation and is adding 5 more. This new concept in appliance handling completely eliminates the use of pallets—which would have meant an additional investment 8 or 9 times the cost of the trucks. The absence of forks and pallets makes possible stacking one tier higher and reduces aisle space required, thus increasing storage capacity more than 25%.

The trucks have a total lift of 242 inches. Appliances are handled 4 per load for the bottom 2 tiers, and 2 per load for upper tiers. Gravity sliding back-rest aligns loads perfectly with tiers below and protects them from impact damage. Side-shifter butts loads snugly against adjacent stack for lateral alignment.

A Baker handling engineer can help you devise similar cost-saving methods in your plant or warehouse. Call your nearest Baker representative or write us direct.

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handling equipment

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GE-6

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On the Line—



How Would You Reply?

There's a letter on our desk that should be answered. It has been there for three days. We will do our best to answer it today because at 7:50 a.m. tomorrow we're starting on a trip with a schedule so full that we won't have time for letter writing en route.

The letter before us requests technical data: Monorail vs. conveyors vs. lift trucks.

The problem facing us is not one of facts. We are well acquainted with the equipment in question and the plant of our correspondent. The problem is whether or not we should answer, as, in all probability, it will be wasted effort.

Because our attitude may appear to be unseemly and negative, we give you an explanation.

Three years ago, this same person, a traffic manager for a well-known company, asked for information about a packaging problem. It happened that we were to be in his town in a few days, so we 'phoned and made arrangements to see him personally.

We allowed two hours for this visit on our busy schedule. Actually, we spent five. We left with a feeling of accomplishment, as the outcome seemed to offer the company a considerable saving in packaging costs, permit easier stacking in the warehouse, adaptability for unitizing loads for shipping, and reduction of damage in handling. Not to be forgotten, also, was the fact that storage of the new cartons would take about half of the space required for the containers then in use.

Months later, we learned that the new package was adopted by the company—over the head of

the T.M. He never presented the idea to management. He dillied and dallied, afraid the idea would be turned down because of a rather high initial cost.

The salesman of the company that was to have supplied the new package waited many weeks as the T.M. fooled and fiddled. One day his patience ran out and he took the idea to the company's purchasing agent. In less than an hour the Operations V.P. okayed the deal, and the T.M. was notified that he was to use the new package henceforth.

The T.M. burned because the P.A. got credit for the new package. He ranted and railed at the salesman, his ancestors and his descendants.

A little over a year ago, we gave this same fellow another idea. He was having personnel problems. One of his men died; another left for a better job, as did one girl. Two other girls got married and quit—all within three months.

We made several suggestions, while promising to be on the lookout for suitable people. Among the suggestions was that he use outside services temporarily for checking his freight bills, which were piled high and many long overdue. He resented this idea, saying that management surely would consider him inefficient and incompetent.

Well, you can guess what happened. Complaints poured in. One day he was "invited" upstairs to see the company's treasurer. The interview ended with the "suggestion" that he get outside help immediately.

Now, we have his third request for assistance. How would you reply?—or would you?

A. W. Greene
EDITOR

Yakkety Yak

This situation recalls some correspondence which hastened one man's retirement.

"Dear Boss: I am taking my planned vacation the next two weeks despite your objections. Main reason, to which you would not listen, is I am getting married.

"Bride-to-be would not like it if

I didn't show up just because you want to make the Traffic Club Golf Tournament.

"Bill Beerseller, Asst. T.M."

"Dear Bill: Happy Honeymoon. Tell your bride-to-be and her relatives that, when you return, you will have the pleasure of taking a new job—one where you can be a big shot, make your own rules, and come

and go as you please.

"Ferdinand Fineprint, T.M."

"Dear F.F.: Didn't know you planned to retire so soon. I accept your job with thanks. Nice wedding present.

"Told bride and her father, the president of our company, and her uncle, our executive vice president. All happy.

"Bill Beerseller, T.M."



Sign of Superior Service

► You'll find this sign on the door, or in the window, of an independent household goods warehouseman in your community or close by. He not only is able and eager to bring you Mayflower Long-Distance Moving Service at its best, but the finest in local moving, storage, packing, crating as well. He is a leading business man in the community, selected because of excellent facilities, service, and organization. Mayflower has only one agent to a town. He is *your* representative, as well as ours, to help you with your moves, to see that you and your people are fully satisfied. It will pay you to call your local Mayflower agent for any moving needs . . . across the nation, or across the street.

AERO MAYFLOWER TRANSIT COMPANY, INC. • INDIANAPOLIS

Mayflower Service is available through selected warehouse agents throughout the United States and Canada. Your local Mayflower agent is listed under Moving in the classified section of your telephone directory.



America's Finest Long-Distance Moving Service

LETTERS

TO THE EDITOR

Transport & Warehousing

To The Editor:

Do you know of any recent books dealing with the principles and practices (methods, procedures, forms, etc.) in operating company-owned supply or distribution warehouses and company-owned trucking fleets (other than for local delivery) offering practical guidance both to the experienced operators and to students?

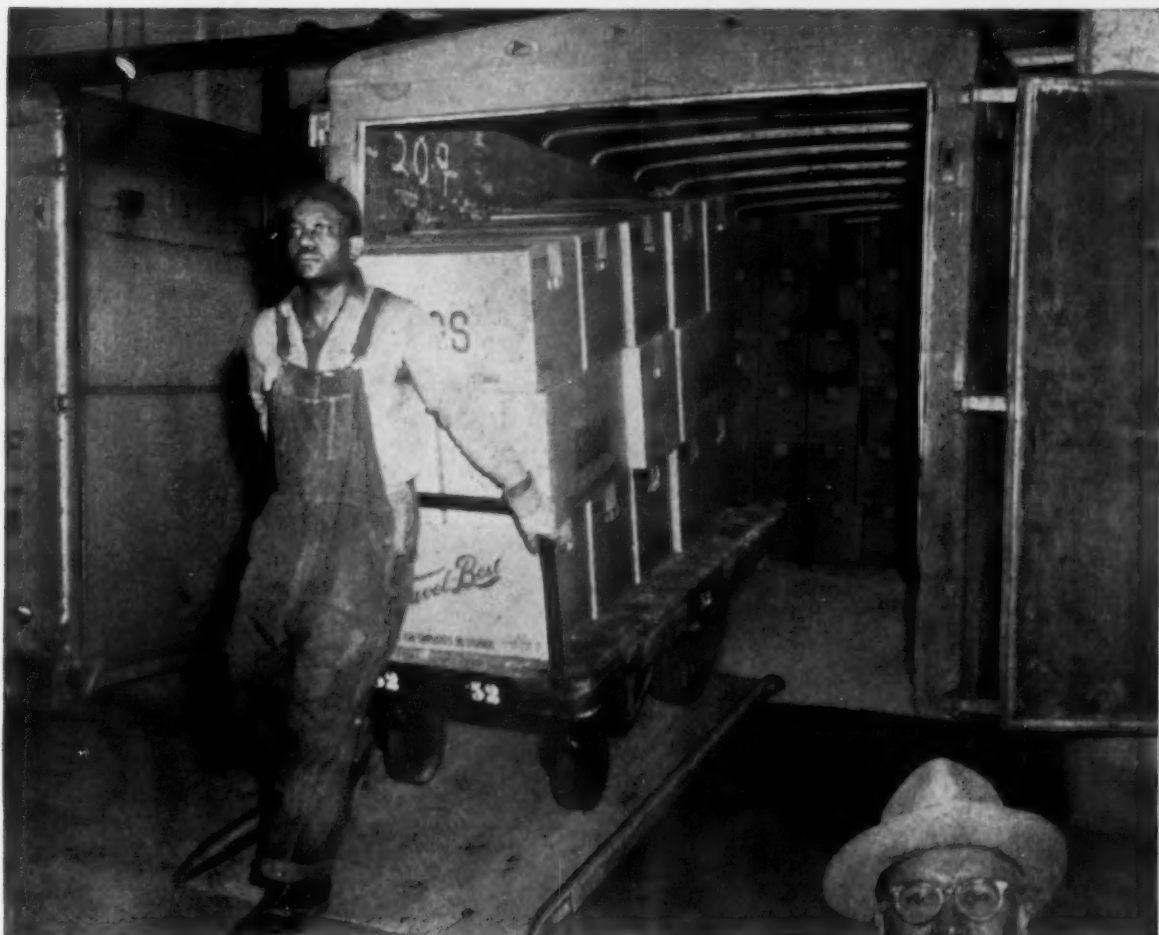
Earl S. Williams
State Traffic Manager

Department of Finance
Sacramento 14, California

I do not wonder that your search for such books has been lacking of results, because there are none. The U. S. Department of Commerce has issued a number of pamphlets dealing with private warehousing in various industries such as the wholesale drug, wholesale grocery and the like. Nothing has been published of a similar nature dealing with private transportation. The back files of DISTRIBUTION AGE, however, contain numerous articles on both warehousing by private concerns and transportation by the same type of organization.

One reason why there has never been a book or books such as you seek is that when an individual concern seeks to do for itself what the public warehouses and the common or contract carriers offer, the same general principles apply except that each of these services is so personalized to fit into particular distributive problems. Another is that concerns do not care to reveal the whats and why's of their operations. Another is that there is not so much to write about in the private field because there is not the sales and service problem, there is not the regulatory problem, etc.

As time goes on, however, since private transportation in the motor, water and air fields becomes more and more important, as it surely will, the books in these fields will of necessity have to give attention to some aspects of it. For example, in the 4th Edition of my "Commercial Air Transportation," now used in 46 Universities etc. giving a course in this subject, I have, for the first time in any such text, included a discussion of "General Aviation" which includes the private transport in that field. Some years ago I had a book "Public Warehousing" published by Ronald Press which now is out of print. I have a new book in this field under way, and in it I will have some chapters on private warehousing but will, of course, have to change the title. This is the way any discussion of specific subjects gradually develop in text or other book writing.—John H. Fredrick, DA Transportation Consultant.



In four warehouses having a total capacity of 100 million pounds of merchandise, Central Cold Storage Co. gives its 14 Magcoa Dockboards a real workout. Fast positioning . . . fast loading and unloading are a must.

"Our Magcoa Magnesium Dockboards speed loading . . . have paid for themselves many times over"

—says L. J. Rudolph, Gen. Supt., Central Cold Storage Co., Chicago

"Since we bought our first Magcoa Magnesium Dockboards back in 1948, they have paid for themselves many times over," says L. J. Rudolph of Central Cold Storage Company. "One man," he continues, "can position a Magcoa board between dock and truck or dock and rail car in a matter of seconds. At busy docks like ours that's important."

"In the old days we used home-made wooden ramps and pieces of steel plate but that was a slow, expensive bottleneck that could not be tolerated in a modern warehousing operation. We have standardized on Magcoa Magnesium Dockboards as part of our con-

tinuing plant modernization program."

What's Your Loading Problem? Dock bottleneck, low rail or truck dock, or maybe a narrow, congested dock? How about spillage or damage to loads? Whether you're modernizing an old dock, planning a dock for a new plant or warehouse, or switching to higher-capacity lift trucks or pallet trucks . . . odds are a Magcoa lightweight, heavy-duty Dockboard or ramp has solved similar problems before. Why not take advantage of this experience?

Good Suggestion: Send for our free new bulletin, "What to do about Difficult Docks." It's loaded with practical, helpful ideas.



L. J. Rudolph, General Superintendent of Central Cold Storage Co., has served the warehousing industry for 31 years; knows every facet of loading and unloading merchandise—has standardized on Magcoa.

**MAGNESIUM
COMPANY
OF AMERICA**
MATERIALS HANDLING DIV.
EAST CHICAGO 3, INDIANA

Representatives in principal cities



Produced in Canada by Magcoa Limited,
277 Rippling Ave. South, Toronto 16,
Ontario. Phone: CLifford 1-1311

☐ Please send "Difficult Docks" bulletin

Name and Title _____

Company _____

Address _____

City-Zone-State _____

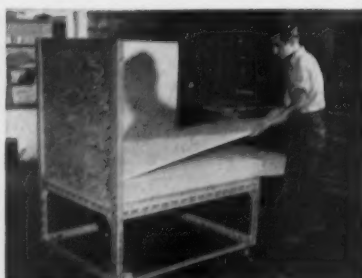
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Circle No. 9 on Card, Facing Page 71, for more information

You name it . . . **DEXION** will frame it



DIE RACK



STACKING JIG



BAR STOCK RACK



SHELVING



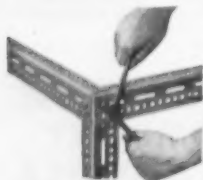
WORK TABLE



CONVEYOR

Easy to cut! Simple to connect! Reusable!
. . . it's the perfect low-cost framing material!

DEXION Slotted Angle is easy to assemble. You can build any frame in minutes. This galvanized steel angle is strong and rigid . . . lasts indefinitely. No drilling or welding. No waste. Easily dismantled, DEXION can be reused to build any other frame. Only your imagination limits its use. DEXION is the perfect, low-cost framing material.



Simple to connect. No special parts or fittings are needed.



Easy to cut. One down-stroke of the DEXION cutter cuts square, accurate and clean.



DEXION panels. Use for shelving to support heavy loads. Heavy duty casters are also available.

DEXION Slotted Angle is a packaged product, ten pieces to a package. It's easy to store, occupies approximately one cubic foot of space. There are two sizes: 3" x 1 1/2" x .104" and 2 1/4" x 1 1/2" x .080" in ten and twelve foot lengths.

Here are a few of the many ways DEXION is being used

- Die Storage Racks
- Assembly Tables
- Catwalks
- Gravity Feed Storage
- Shelving
- Warehousing Racks
- Machinery Mount & Guard
- Work Bench
- Pipe Line Hangers
- Control Box Mountings
- Bulk Storage Bins
- Bar Stock Racks
- Mezzanine
- Tire Storage Racks
- Conveyor Framework
- Carts
- Vertical Sheet Storage
- Cable Rack
- Cutting Tables
- Conduit Hangers
- Platforms
- Pallet Racks



Write to Dept. DBD-96 today for free DEXION folder. Or write the DEXION Division, Acme Steel Company, 2840 Archer Avenue, Chicago 8, Illinois for the name of your nearest DEXION office or distributor.

DEXION SLOTTED ANGLE



Circle No. 10 on Card, Facing Page 71, for more information



Model TTF-20 PowerOx Tilt-Type Fork Truck

BARRETT TILT HI-LIFT

...for easy, quick pallet stacking

Barrett PowerOx Hi-Lift, tilt-type fork truck is designed for fast handling of pallet loads. Its short-coupled wheel base gives Hi-Lift great maneuverability in narrow aisles. Lift and tilt controls, mounted close to operator's hand, give instant response.

Weight, distributed over four-point wheel suspension and floating drive wheel, gives greatest stability possible, even at extreme raised height with full load; steering is easier, wear and tear on drive wheel reduced to a minimum.

Like all BARRETT equipment, the Hi-Lift is ruggedly built to last a long time in rough, close-quarter operation. Working parts readily accessible for adjustments and service.

BULLETIN 551-2 GIVES COMPLETE SPECIFICATIONS... use the coupon.

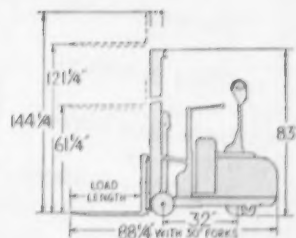
BARRETT-CRAVENS COMPANY
644 Dundee Road, Northbrook, Illinois
Representatives in All Principal Cities
Canadian Licensee: S. A. Armstrong, Ltd., Toronto, Canada

BARRETT

ONE MAN DOES MORE THAN 3 OR 4... WITH A BARRETT

Circle No. 11 on Card, Facing Page 71, for more information

Extra short wheel base for quick, easy turning. 12-volt battery. 2000-3000 lb. cap. 2000 lb. at 24" load center. Non-tilt, non-telescopic models also available.



BARRETT-CRAVENS COMPANY
644 Dundee Road, Northbrook, Illinois

Please send me Bulletin 551-2 on Barrett PowerOx Hi-Lift.

Name.....Title.....

Company.....

Address.....

City.....Zone.....State.....



Finishing touch to a perfect move...

*Exceptional follow-through at destination
makes GREYVAN PREFERRED for nationwide moving*

Household Goods
•
Office Furnishings
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Trade Show Displays
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High-Value Products

It's the finish that counts most in making transferred personnel happy with their move, thereby enabling them to fit into their new surroundings so quickly and easily it almost seems as if they had never moved.

That's one of the reasons why so many traffic managers—and the people they transfer—prefer Greyvan service.

It's reassuring to know that a skilled Greyvan representative will be available at destination to see that delivery instruc-

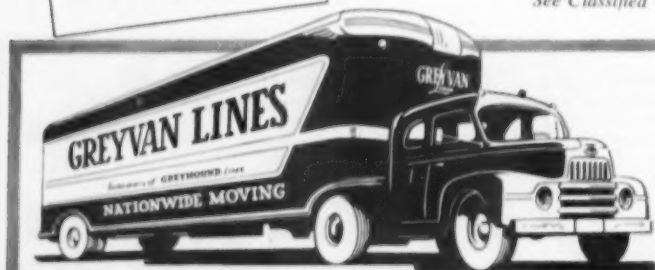
tions are followed to the letter—handle any special service problems that may occur—make an on-the-spot settlement of almost any claim that may arise.

Give your personnel the benefit of Greyvan's long experience, modern equipment, advanced methods, and personal interest. Call your local Greyvan representative for complete information.

GREYVAN LINES, INC.

57 West Grand Avenue, Chicago 10, Illinois

See Classified Telephone Directory for nearest office



A Greyhound Lines subsidiary . . .

Greyvan is one of America's leading long-distance moving companies . . . provides dependable, responsible, efficient service by skilled, courteous personnel, using America's most modern moving methods and equipment.



WASHINGTON



By Ray M. Stroupe, *Chilton Washington News Bureau*

CONTAINER TREND UP—Heavy volume of shipments by container manufacturers through the remainder of the year is expected by the U. S. Commerce Dept. Officials there, examining data from the industry, see indications of thriving activity ahead. They find in a review of the first quarter 1956 that operations were eight per cent greater than in the first quarter 1955. About 79 per cent of the industry lines made gains in the opening quarter this year.

MERGER PACE HELD—Popular notion that the rate of mergers in the motor carrier field is rising is not backed by ICC records. The agency received, from Nov. 1, 1947, through Oct. 31, 1955, an annual average of 311 applications to buy, control, or merge carriers. Applications in 1955 just matched the average for the eight years concerned. From last Nov. 1, through June 30, 1956, 188 applications were filed with ICC.

BACKS SHIP PROGRAM—Construction and conversion of ships to carry more U. S. cargoes will be bolstered by substantial government money this year. From Congress, the Maritime Administration gets \$82.7 million for shipbuilding subsidies, plus \$18 million toward an atomic-powered merchant ship. But bills to help domestic coastal shipping and put Great Lakes ship construction under the subsidy program did not pass.

WATCH RAIL SESSION—In August, ICC officials watchfully noted the gathering of Eastern railroad executives to discuss a possible request for a new freight rate boost of perhaps five per cent. All rail lines were authorized last March to raise rates on many items by about six per cent. Shippers indicate that the roads may be ill-advised to call for higher freight charges now, in view of the recently-announced rise in demurrage fees.

FLOOD COVER BEGINS—Temporary government flood insurance program enacted this summer will enable business property owners to get some compensation for storm and high-water losses. Insured person will pay 60 per cent of the premiums on a policy either issued directly or reinsured by the government. Law also provides for long-term, low-interest federal loans to business and home owners who are disaster victims.

HOT CARGO INTERVENTION—ICC is petitioned by the U. S. Chamber of Commerce for permission to intervene in a case involving "hot cargo" secondary boycott contracts. Free commerce and the shipping public are imperiled by the contracts, the Chamber contends. Galveston Truck Line Corp., of Houston, originally named a number of Southwestern carriers in the "hot cargo" action. ICC plans an early September hearing in Oklahoma City.

FINDS POLICY FAULT—Defense Dept. transportation policies are causing commercial shipping lines and private terminals to lose business, the Senate Commerce Committee charges. In a new report, the group criticizes the Military Sea Transportation Service use of military terminals for a heavy share of overseas operations. It also argues that the military wastes money by routing many cargoes out of San Francisco, instead of Seattle.

ICC PAY HIKE EFFECTED—Salaries of members of the ICC are raised by the new Public Law 854, 84th Congress. This act, dealing with the pay of many high-ranking government employees, sets the salary of the ICC chairman at \$20,500 a year. His ten colleagues will be paid \$20,000 a year each. Salary for a commissioner had been \$15,000 a year.

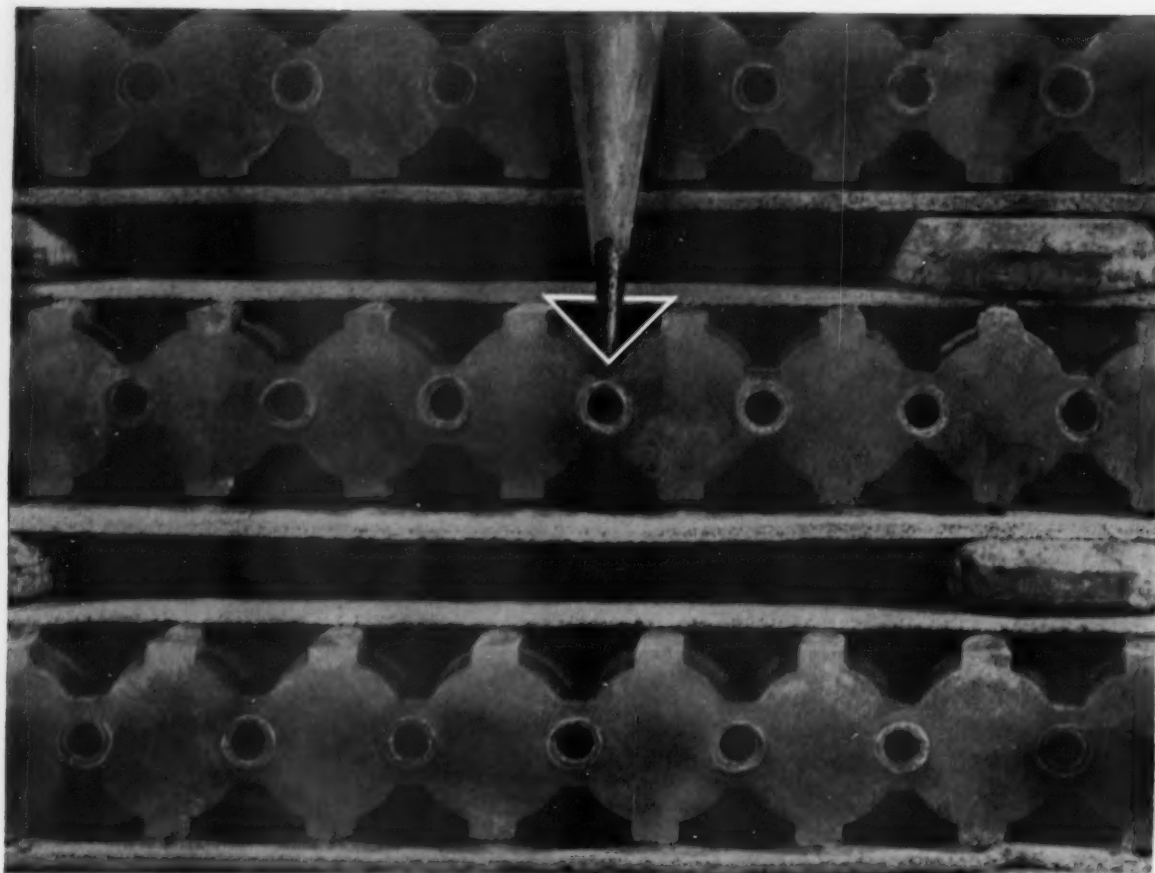
GETS NOTE PERMIT—Carrying new ICC approval is the financing method selected by a Philadelphia motor carrier for a fleet improvement program. E. Brooke Matlack, Inc., transporting tank-truck cargoes in 19 states and the District of Columbia, gets ICC permission to issue \$315,000 in notes to a Philadelphia bank. The firm is buying 28 tank-type trailers and 20 light diesel tractors.

TAX STATUS DECIDED—Rigging charges assessed in connection with the actual movement of goods are subject to the three per cent federal transportation tax, Internal Revenue Service rules. IRS adds that charges for additional rigging not integral to the transportation action are not taxed if billed separately. The new decision is made in connection with a company which transports and rigs machinery and other heavy equipment.

WAR REPARATIONS—Lawyers at the U. S. Justice Dept. no longer will try to make a case for
(Please Turn to Page 130)

EXIDE-IRONCLAD BATTERIES

For electric industrial truck operation



BOTTOM VIEW shows tubular construction of positive plates in an Exide-Ironclad Battery.

Pools of electrolyte next to plates speed heavy load response

BATTERY FOR ELECTRIC INDUSTRIAL TRUCK. Exide-Ironclad Model TH. Write for Bulletin No. 5161.



When the man at the control says "More power--fast," the positive plate in the storage battery says "More electrolyte— instantly." That's why the Exide-Ironclad Battery can meet heavy load demands so much more rapidly than other types of batteries. And it's the reason they outperform others in so many uses.

Adjacent to every positive plate in the Exide-Ironclad Battery are these triangular pools of electrolyte standing in reserve. When the call comes for power, the electrolyte is right there where it's needed for swift, sure response. There's nothing to slow down the action. Tiny slits in plastic power tubes let electrolyte in—yet prevent loss of active material.

Only the Exide-Ironclad Battery has this construction.

This exclusive feature is only one of the many reasons Exide-Ironclad Batteries have proved so superior in countless applications. When you order batteries for heavy duty service, or the equipment that requires such batteries, be sure to specify Exide-Ironclad. Write for detailed bulletin, Exide Industrial Division, The Electric Storage Battery Company, Philadelphia 2, Pa.

Exide®

Circle No. 12 on Card, Facing Page 71, for more information

More of everything you want in a V-8!



New INTERNATIONAL V-Line gives you...

More go at the lights!

More speed on the hills!

More ton-miles per gallon!

More power per payload pound!

More power where you need it most! That sums up the story of INTERNATIONAL's great new line of heavy-duty V-8 trucks.

With that extra power you get away faster at traffic lights, move faster uphill, and build higher average road speeds within legal limits. And you do it with less shifting.

Shorter bumper-to-back-of-cab dimension allows maximum payload capacity, with more ton-miles per gallon. Your trip time is shorter, your power per payload pound much greater.

These are not just claims—they're *proven facts*. Who proved them? *100 fleets* tested these new INTERNATIONAL V-8's, on and off the highway, in 2,500,000 miles of heavy-duty hauling!

But the most convincing proof of all will come when you get behind the wheel yourself! Why not see and drive these great new V-8's at your INTERNATIONAL Dealer or Branch?

INTERNATIONAL HARVESTER COMPANY • CHICAGO

INTERNATIONAL® TRUCKS

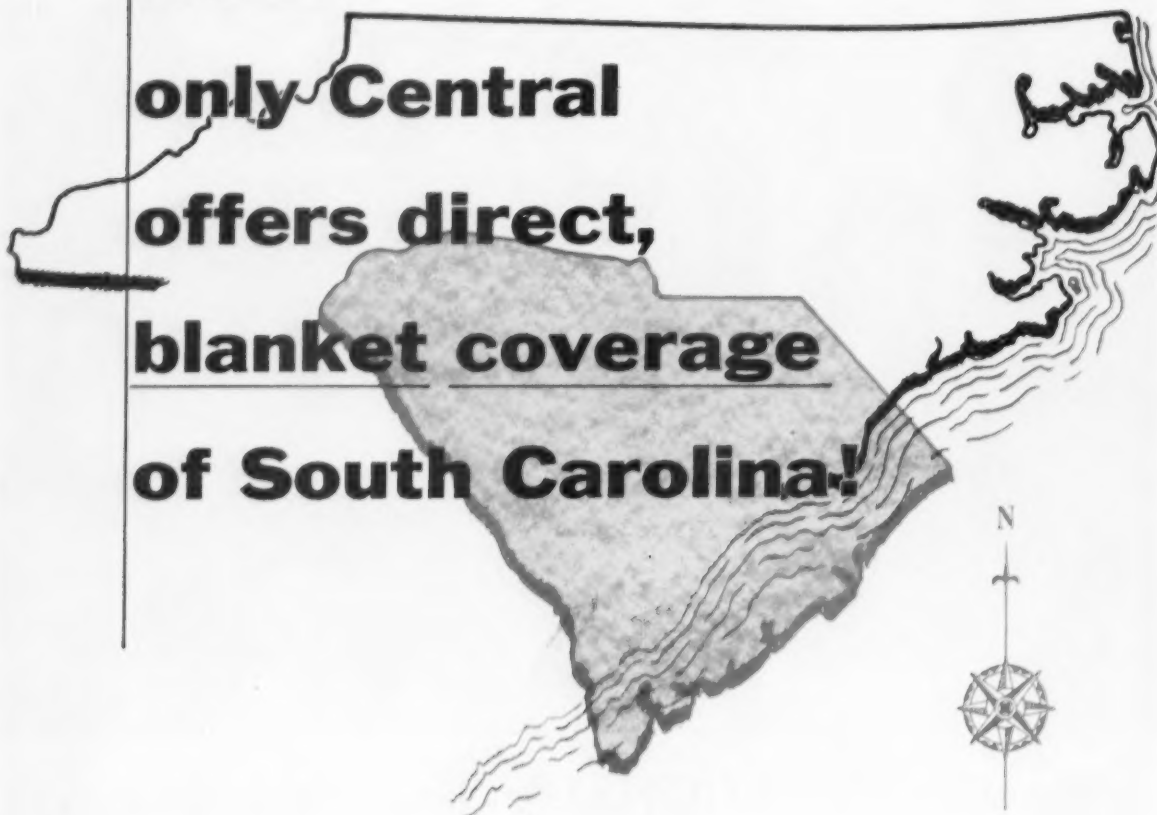
FIRST with men who know truck costs



Motor Trucks • Crawler Tractors • Construction Equipment • McCormick® Farm Equipment and Farmall® Tractors

NOW!

**only Central
offers direct,
blanket coverage
of South Carolina!**



Central is now the *first* carrier to offer direct service to and from *every* point in South Carolina. Thus, Central's Specialized Small Shipment Service is extended to hundreds of additional South Carolina communities...an unparalleled opportunity for you to open new markets or gain new sources of supply.

Remember...

Central's direct service means Controlled Scheduling ... immediate handling ... prompt dispatch ... freight cleared from terminals daily.

And Central's affirmative rate policy welcomes small shipments!



Linking the Carolinas with the East and West

ASK THE MAN FROM CENTRAL...

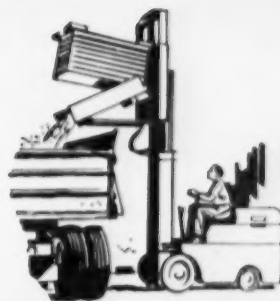
*How you can Reach new markets...
Draw from new sources... Effect savings.*

C E N T R A L

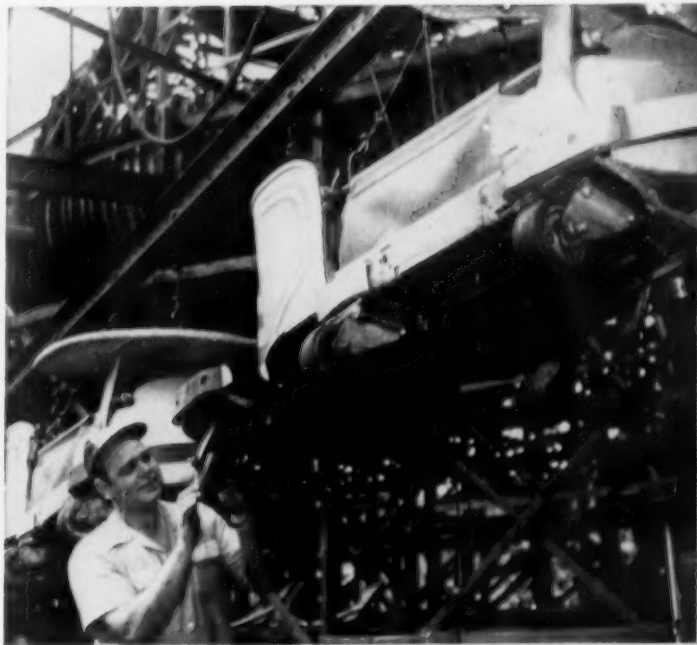
General Offices: Charlotte 1, N. C.



Typical Industrial Tire Problems Solved by B.F. Goodrich



Tires average 15-16 months' service! A 16,000-pound load of steel bars is "just average" for this fork truck at a large eastern steel plant. Although other tires failed within three months, the tires recommended by the B. F. Goodrich TW Analysis man are averaging 15 to 16 months in this heavy-duty service!



Thrill-seekers ride safely on BFG tires! Famous Euclid Beach Park in Cleveland had a problem. Tires on the coaster cars of the breath-taking "Flying Turns" required almost constant maintenance. After a BFG Analysis man studied the problem, he recommended B. F. Goodrich Vulcanized-on tires with Carrier compound and a smooth base mounted on aluminum hubs. Now the tires have a normal life span of a complete season.



Dana Corporation boosts tire life! Most other tires didn't last half as long as those recommended by the B. F. Goodrich TW Analysis man, says Garageman Anthony Bosch of Dana Corporation's Toledo plant. Materials handling equipment in this modern transmission factory hauls supplies, parts and finished goods through storage yards, over oil-soaked floors and sharp steel shavings.



B. F. Goodrich tires used 100%! Why? Because, says Plant Superintendent A. F. Madison, of Bower Roller Bearing Company, B. F. Goodrich industrial tires do a better job of resisting iron and steel scrap, oily floors and other tire hazards. And, he says, the B. F. Goodrich Tire and Wheel Analysis Plan puts exactly the right tires on every truck in our plant.

more ➔

B.F. Goodrich

TW Analysis saves and saves and saves



Tires on small equipment can be important, too! Greeley General Warehouse in Cleveland installed rubber tires on hand-type barrel trucks. After a short trial, workers refused to use the trucks. "Back-breaking," they said. A TW Analysis revealed that the tires were too narrow for easy rolling with the loads carried. B. F. Goodrich Vulcanized-on tires with wide treads were installed. Les Carrier of Greeley says, "Our men are happy now. Traffic moves faster. And the condition of the tires after much hard service speaks well for the B. F. Goodrich recommendation."



2,000 materials handling units in one plant! Willys Motors operates more than 2,000 materials handling units in their Toledo plant. The tires on these units are exposed to almost every known tire hazard. According to Major Mechanic Harold Roberts, the B. F. Goodrich Tire and Wheel Analysis here resulted in "far longer, trouble-free tire service — and this saves us money."



BFG tires wear longer, resist cuts better! The supervisor of truck repairs at this large Detroit stamping plant reports, "B. F. Goodrich industrial tires are hard to beat. We find that they wear longer and resist cuts better." That's because the B. F. Goodrich TW Analysis man matched the tires to the job.

Here's how you can get a

FREE TW ANALYSIS



B. F. Goodrich Tire Company
A Division of The B. F. Goodrich Company
Department TW-597, Akron 18, Ohio

I would like further information on your
FREE TW Analysis.

NAME _____

COMPANY _____

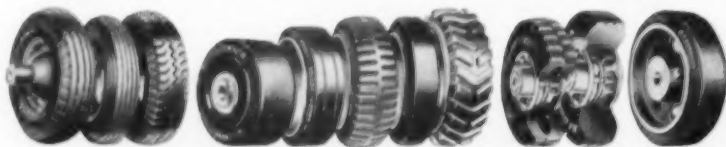
STREET _____

CITY _____ ZONE _____ STATE _____

Do you know which industrial tires — which types, sizes, tread designs and compounds — are right for your materials handling jobs? Your B. F. Goodrich Tire and Wheel Analysis man can give you the answers. He'll make a free survey of your operations, then give you unbiased

advice. His recommendations could save you as much as 50% on tire costs, up to 20% on maintenance costs. Just mail the coupon. This B. F. Goodrich service costs you nothing. A consulting service is available to manufacturers of materials handling equipment.

Specify B. F. Goodrich tires when ordering new equipment



Circle No. 1 on Reader Service Card for more information



THE latest innovation worked out by the CAB and the airlines is Deferred Airfreight, under which special rates are granted for airfreight shipped on a space available basis.

Several airlines have been handling this type of traffic for the past few months on an experimental basis. The period of the experiment has been set by the CAB at one year. Enemies of the plan, however, claim that, if we can judge from past experience, the time limit on the plan will be extended until in due course the experiment becomes permanent. This, they point out, has happened to other air carrier promotions.

Shipper Interest

The deferred airfreight experiment is being watched by all forms of transportation. Some of them view it with considerable alarm. Shippers should understand what is involved, as they may eventually have to take a position one way or the other. The concept of a carrier handling freight in its regular service and slowing it up by withholding delivery has never been accepted before by a regulatory body in this country.

Traffic carried on the deferred airfreight rates is accepted on a space available basis. It is not released to consignees at destination airports prior to the third day after it arrives, where the movement is under 2,100 miles, and not before the fourth day where the movement is 2,100 miles or over. This delayed delivery is supposed to preserve the distinction between deferred and regular service.

Eastbound rates, under the CAB order setting up the service, can be no less than 55 per cent of the published minimum rates for ordinary airfreight. Other rates can be no less than 65 per cent of published minimums. These rates are approximately 7 per cent un-

Deferred Airfreight— its Pros and Cons

**New CAB experiment, granting special rates
to air traffic moving on a space available
basis, draws opposition from other carriers**

der rail express rates westbound and approximately 20 per cent under rail express rates eastbound.

For the Plan

American Airlines was the originator of the deferred rate method and the first to put it into effect. Basic reasons for such a service, from the airline point of view, are:

1. Aircraft carrying passengers, mail, express and ordinary freight have a considerable amount of unused space on nearly every flight. This wasted cargo capacity might as well be used to expand the development of airfreight;

2. The use of existing unused space on aircraft would involve no additional direct aircraft operating costs, nor would ground handling costs be increased since staff and space at airports already are available.

Against the Plan

When the CAB was considering American's proposal, which also was supported by the Flying Tiger Line and TWA, strong opposition

came from the Railway Express Agency, with some support from Slick Airways, Northwest and United. Opponents' arguments were:

1. A deferred airfreight service would be uneconomic since it would divert a substantial volume of traffic from the regular freight service;

2. Under the rates proposed the deferred system would heighten existing directional unbalance of freight traffic, since heavier discounts from regular rates were allowed on westbound than on eastbound shipments;

3. The rates proposed were unreasonably low and non-compensatory;

4. The complexity of handling the deferred airfreight would result in higher costs than for regular airfreight;

5. There would be unavoidable shipper and consignee pressures on the airlines using such rates to release shipments early, resulting in the eventual shortening of the mandatory delay period;

6. Administrative difficulties in-
(Please Turn to Page 100)



20th Century Logging

Underwater Storage and

By W. H. Joubert, *Traffic Manager*
Bowaters Southern Paper Corp., Calhoun, Tenn.

Storage and handling operation at this paper

Cable conveying system moves logs from storage pond to wood preparation building. Note covered chip conveyor



MORE than two million logs are stored under water at one time in a concrete-lined log pond at the new \$60 million newsprint mill of the Bowaters Southern Paper Corp., at Calhoun, Tenn.

The log pond is 489 ft in diameter at its outside rim, 380 ft in diameter at the bottom, and holds enough water to float a 10,000 ton ship.

This technical innovation in pulpwood handling is designed to preserve southern pine logs, which decay very rapidly during the summer months when piled on the ground.

The mill, situated on the Hiwassee River, began production in 1954, with an initial annual capacity of 130,000 tons of newsprint and 55,000 tons of sulphate pulp. Production has since been stepped up to 165,000 tons of newsprint and 65,000 tons of pulp. (In the 10 years to 1950, newsprint consumption in the United States had risen by some 59 per cent.)

At present, the mill is undergoing a \$25 million expansion program. When this is completed, the firm anticipates annual newsprint production of about 275,000 tons.

No less than 32 million cu ft of wood are required



Sling and grappler cranes drop loads into hoppers which in turn will push logs out onto the turntable



Link-Belt gantry cranes on tracks swing around top of storage basin

Conveyor moves chips from preparation building to the storage silos

Automated Handling

mill ups newsprint production to some 165,000 tons annually

yearly to keep the mill running at full capacity. A total volume of 1,050 cords of pine is used each day—409 cords of groundwood and 641 cords of kraft.

The pulpwood can be delivered by truck from nearby areas, by rail from more distant points, and by barge from forests throughout the Tennessee River Valley. Finished newsprint can be delivered by barge if desired, to cities as far away as Chicago and Houston.

Underwater storage of logs was adopted for several reasons.

1. While under water, the logs are protected from decay and from insect and fungus attacks.

2. Fiber yield is increased, because of the uniformly high moisture content.

3. Wood procurement is regulated more easily to fit seasonal

labor and any weather changes.

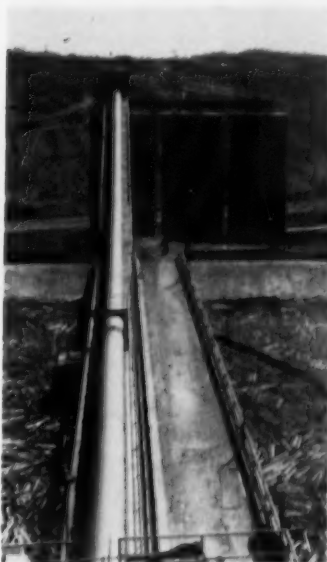
4. The fire hazard is minimized. Although the first cost of the installation exceeded that for equivalent dry storage, savings in manpower and loss of wood due to decay have been realized.

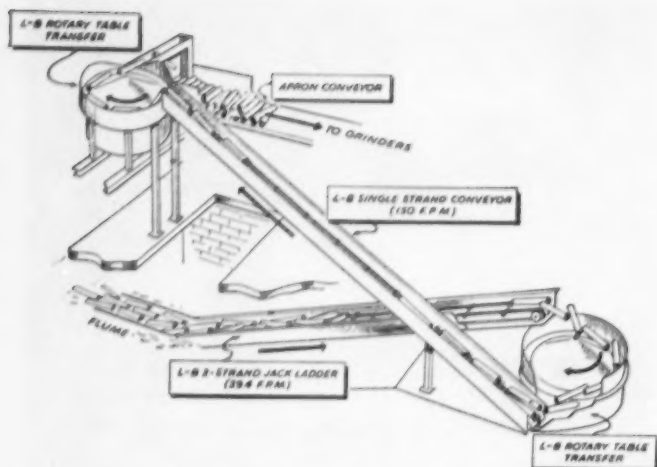
The basic problem in the storage of logs is to put the wood in as it arrives and to get it out again when it is needed for the mill. In addition, at the mill, it is necessary to handle two different varieties of wood, one for kraft pulp and another for groundwood pulp, and to keep the two varieties separate.

Several materials handling methods are a part of the design of the mill, including a rotating, cantilever gantry crane, 248 ft overall, which is a feature of the unloading operation. This gantry

travels in a 62-deg arc along a curved track adjacent to the river bank, pivoting on a 154-ft radius. It not only reaches out over the water about 75 ft, but covers a considerable distance parallel to the bank, picking up wood from either barges or railroad cars. Normally, it has an orange-peel grapple, but it can be equipped with a hook for handling slings of logs.

Logs are barked immediately
(Please Turn Page)





System carries 25 cords an hour from flume to grinder floor. Drawing shows how rotary table transfers logs from one conveyor to next

Underwater Storage . . .

(Continued from Preceding Page)

upon arrival, being hoisted either by the gantry or by a crawler crane onto one of two heavy-duty chain feeders delivering to a 60-ft-diameter turntable conveyor, 7 ft wide, that distributes the logs to three barking drums, each of which is 12 ft in diameter and 45 ft long.

It is at the barking drums that the first split is made between the wood intended for kraft pulping and the wood for the grinders. One outside drum delivers into one system, the other to the other system, with the center drum able to discharge to either system. From this point on, all machinery comprises two separate systems capable of handling the wood without intermixing the two varieties.

The logs are carried to the center of the log pond by two parallel cable conveyors, arranged in a figure 8 pattern. The cable conveyors drop the logs onto 40-ft turntables in the center of the pond, and twin rotating stackers discharge them into the pond.

The log pond is arranged in two semi-circles—one for kraft logs, the other for groundwood logs—with duplicate equipment serving the two sides. The two gantry cranes pivot from the center island, with the outside logs travel-

ing along a curved track in almost a 180-deg arc at the outer rim of the pond.

The logs are retrieved by the grapple of the gantry crane, delivered to a hopper in the center of the island, fed by a chain feeder back onto another portion of the same turntable, and carried to the wood preparation house by the return run of the cable conveyor.

Both cable conveyors discharge onto a single turntable on the upper floor of the wood room. This turntable performs dual service, supplying kraft wood to the chipper and wood for the grinders into a chute leading to a flume. The chips are screened and then stored in chip silos until needed. Then they are carried by belt conveyor to a tripper over the digesters.

The groundwood logs travel in the flume around the perimeter of the pond to the mill, where they are picked up and carried by chain conveyors to the grinder floor and delivered to the grinders by an apron conveyor.

Automatic Operation

Although the log pond gantry cranes normally are man-operated, they are built for completely automatic operation. There is no need for the operator to ride in the cab.

The logs can be picked up from any point in the pond, up to the toe of the outer bank. They can be hoisted a maximum of 65 ft and they travel an average distance of 180 ft to the center island.

In supervising automatic operation, the operator predetermines the digging point by locating the gantry and setting the trolley control lug. This is a motor-operated, chain-driven tripping lug which can be moved along the entire length of the crane structure to establish the position where the trolley stops and the grapple is lowered. Thus the operator locates the digging point as he would locate a set of polar coordinates, along a certain radius at a certain distance from the center.

The grapple engages the logs at full speed, in order to set the grapple properly in the log mass. A load-sensing device on the hold drive applies counter torque to the hold motor, then sets the brake. The close motor is reversed, and digging begins. As the close drive digs, the grapple closes and then starts to hoist. At this point a marked increase in the load indicates that the grapple is closed and the hold drive is energized.

The motors for the hoist, trolley, and bridge are of the wound rotor type, operated from a 440-volt supply. The close motor for the hoist is 100 hp and the hold motor is 40 hp, operating through double reduction parallel shaft gear drives, respectively.

The operating characteristics of the grapple account for the variance of these ratings from the usual pattern for buckets in which the hold and close motors are duplicate. The grapple, when hoisting a load, must be supported almost exclusively on the close line, to prevent even one log from slipping, because the release of a key log might cause the entire load to slip out from between the arms and the chains.

In lowering, the grapple must be supported exclusively by the hold line to assure that it is open as far as possible. Thus the close motor does practically all the hoisting work, while the hold motor performs the lowering. •



New piggy-back system utilizes huge gantry cranes for loading and unloading of trailer bodies—trailer chassis remains with tractor

Piggy-Back Gets a Lift

A NEW method of hauling trucks by train was placed in operation by the Missouri Pacific Lines in June. The service is available between St. Louis-East St. Louis and Kansas City. The method differs from normal piggy-back style in that only the body of the trailer is handled by train.

The trailer is spotted at shipper's platform and sealed after loading is completed. A tractor delivers the trailer to a gondola or any type of flat-bottom freight car available.

There are three stages in the operation of the new rail-van service. The tractor pulls beneath the stationary gantry crane with its grappling hooks, and a push of a button starts the electric crane motors. The lifting hooks engage in runs on the side of the trailer body, which is lifted from the chassis and is lowered into the waiting car.

To remove the body from the car to a waiting chassis, the process is reversed. In transit the trailer body—minus wheels and other appurtenances—is secured in the car by chains and tension springs. They are carried in special compartments of the body when it is on a chassis.

Tests have shown that the loading process from chassis to railroad car, including the time used for securing the container in the gondola, averages about five minutes. The average time of removing the container from the railroad car to a chassis, including time consumed in unlashings the



Electrically-operated gantry crane lifts a loaded trailer body from its chassis and deposits it in a standard size gondola car

container and securing the fasteners, is about seven minutes.

Advantages claimed for this new handling, as compared with the piggy-back style, are that the dead weight of hauling the chassis is eliminated, no specially equipped type of freight car is required, and that containers, once detached from the chassis and loaded in the gondola cars, are almost impervious to shock.

Service will not be confined to the gantry crane locations, but will extend beyond such stations into surrounding areas by use of

freight transport operations over the highways.

In addition to handling truck bodies in gondola cars on its own and Texas & Pacific Railway routes, Missouri Pacific—in order to participate in trailer on flat car type of traffic moving from the North and East to the Southwest—will establish this class of service with connecting railroads at St. Louis and Kansas City. This interline service will be initially provided to 144 cities in Arkansas, Louisiana, Texas, and Memphis. •



Piggy-Back to Piggy-Boat



FIG. 1—Semi-trailer rolls off of special flatcar via a loading ramp built from salvaged flatcar

FIG. 2—Lashings used on roll-on-roll-off ship. Trailers are blocked, held up by portable brace units

FIG. 3—As trailer rolls off ship it crosses Army LCU, used as a bridge between the ship and land

FIG. 4—Coming off LCU, trailer is ready to resume overland journey, can be reloaded on flatcar



SEVERAL innovations in commercial transportation equipment, accenting the roll-on, roll-off concept, were successfully demonstrated recently at Fort Eustis, Va., in a two-day Transportation Round-Up. The Round-Up was staged before civilian and military transportation authorities by the Army's Transportation Training Command.

Joined for the first time under actual test conditions were the recently launched 64-ft commercial vessel TMT "Seatruck Lloyd"; a new lightweight car, an innovation in rail flatcars, and the Pennsylvania Railroad's new 75-ft flatcar, which can transport two 35-ft long standard highway trailers.

Observers watched as Transportation Corps troops used a specially designed Army ramp to drive 34-ft semi-trailer vans off the extra-length flatcars directly on to the dock of the installation's port terminal area. Next, four of the trailers were driven aboard the "Seatruck" over the deck of a standard Army LCU (Landing Craft, Utility), acting as a bridge between the ship and the dock. Minutes later, the trailers were off-loaded in the same manner at a nearby beach.

In this manner the roll-on-roll-off transition was completed from rail to land to sea, and then to land again.

'Keep cargo on wheels' was the theme recently as the Army successfully demonstrated transfer of loaded semi-trailers from rail to land to sea back to land—with no manual handling involved

By R. T. Carroll, *Technical Liaison Officer*

Office of the Chief of Transportation, Department of The Army

and Back Again

The cargo remained on wheels all of the way. There was no manual transfer of cargo involved.

The "Seatruck" came to Fort Eustis only seven days after it was launched at Jacksonville, Fla. Designed for and operated by TMT Trailer Ferry Inc., it carried its first load from Florida to Fort Eustis.

In the second phase of the exercise, troops used heavy duty, tough-terrain fork lifts to load the "Seatruck" with the Army's newly developed steel shipping containers (Conex), and similar standardized containers from ACF's Adapto rail flatcar.

Measuring roughly 8-ft long, 6-ft wide, and 7-ft tall, the Army shipping containers are specially designed for stacking and general ease of handling. Their use can make for considerable savings in military cargo handling and packing costs, while at the same time reducing losses from damage and pilferage.

The ACF container units are much like the Army's in size and appearance, forming a four-compartment box car. According to the manufacturer, the 38-ft basic car platform can be converted readily for use as a gondola, hopper-container, refrigerator or tank car, and also can be used as a piggy-back carrier capable of handling the largest standard trailer.*

FIG. 5—Rough terrain fork truck is used to load metal containers on board ship. Boxes facilitate small items handling

FIG. 6—Mobile crane lifts Conex boxes onto ship. Eighteen such boxes were used in the cargo handling demonstration

FIG. 7—A train brings the Adapto boxes alongside the ship, where a crane prepares to load the containers on the ship

FIG. 8—Crane lowers Adapto box to the deck. Four boxes, each of which weighs 2700 lb empty, were loaded on the ship

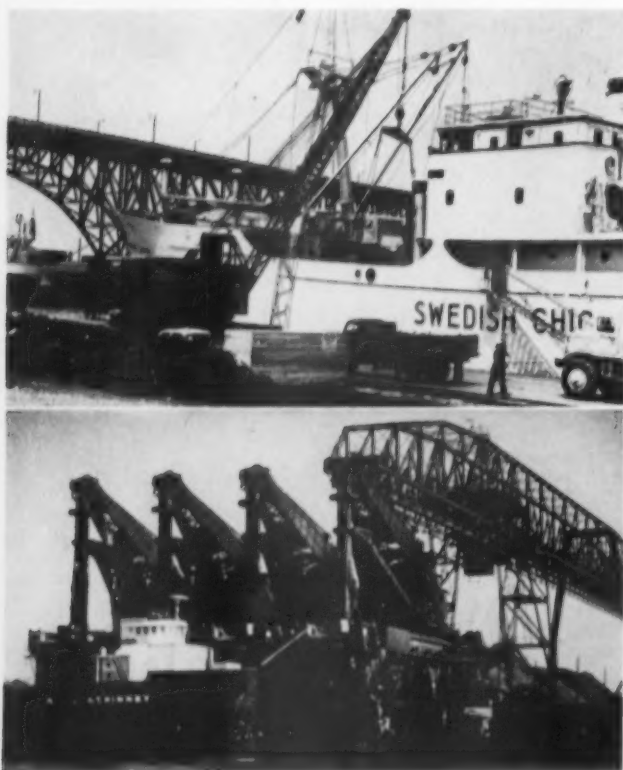


Lake Erie



With completion of the Seaway, 90% of the world's merchant ships will be able

General cargo and ore unloading machinery give Cleveland capacity to handle four times tonnage now being handled



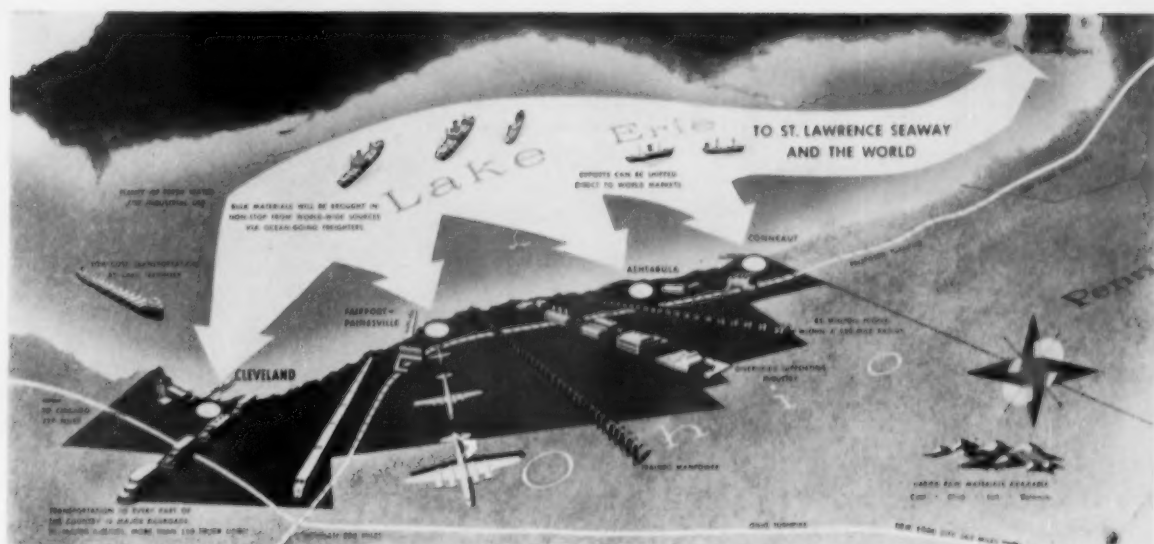
DEVELOPMENT of the St. Lawrence Seaway has special significance to the four major Lake Erie ports of Northeast Ohio — Cleveland, Fairport, Ashtabula, and Conneaut.

During the past 10 years this 1700-square mile area, situated on the southern shore of the Lake, has grown at a remarkable rate. During that time, manufacturers in the area have invested more than \$2 billion in new plants and equipment.

With completion of the Seaway, expected in early 1959, port directors and other municipal and business executives look to an even greater era of economic development. There seems to be a sound basis for this type of thinking.

Area officials point out that the Seaway will open a new, low-cost shipping avenue. The Seaway will round out a transportation network that already includes five major railroads, more than 150 motor truck lines, 11 airlines, and an excellent highway system, augmented by the recently completed Ohio Turnpike.

The area offers a prime source of light, power, and water; there are thousands of acres of excellent industrial land ready for purchase and development; the area offers a mass market with its population of close to two million; there is an abun-



Photograph courtesy of Cleveland Electric Illuminating Co.

Strategic location and availability of resources promise bright future for area

Ashtabula

to travel the route—and Northeast Ohio will be ready

dance of raw materials, and manufacturing facilities already have reached an all-time high.

Even before a single spadeful of earth was turned on the Seaway, when the project was still in the drawing-board stage, the four Northeast Ohio ports were busy with their own planning.

Cleveland

Facilities of the Port of Cleveland are ready today for the opening of the enlarged Seaway, except for the work yet to be done on the Seaway itself and some channel deepening in the Cleveland Harbor. Preliminaries have been completed on the dredging project, and the work will be finished before the Seaway actually opens.

Cleveland docks and terminals have the capacity to handle four times the general cargo tonnage now going through the point. To implement the further development of waterfront facilities, the people of Cleveland last November passed an \$8 million bond issue.

Work already has begun on one new city dock, which will be used

primarily for passenger service. Plans are being drawn for a second city dock, which will be used for general cargo. The new cargo dock will be 700 ft long and 318 ft wide, with a 200-ft slip on either side.

Present facilities include three dock operating companies engaged in foreign trade, with a combined usable berthing space of 32,500 ft. A fourth company has 574 ft of usable space, but is not currently engaged in handling overseas traffic. A number of stand-by docks also are available, with no extensive or major construction necessary.

Cleveland also has begun work on a \$50 million improvement project on the Cuyahoga River. This project, which is 60 per cent complete, includes construction of new bridges, renewal of existing bridges, work on the channel, and other improvements. When completed, it will permit the passage of larger and deeper draft vessels through the Cuyahoga to the steel plants located at the head of the river.

Ashtabula, which calls itself the Seaway Port of Progress and which in recent years has become a chemical industry center, also is readying itself for completion of the St. Lawrence Seaway project.

The Ashtabula improvement program is a project of private enterprise, rather than municipal planning and financing. A local trucking contractor, who visioned the Seaway as a tremendous stimulant to industrial expansion, acquired a sizeable piece of land fronting on the lake.

He filled, graded, and made other improvements, and immediately began work on two 2,000-ft piers. Now the Federal government is dredging a turning basin in the harbor and deepwater channels to the new piers. The entire project should be completed sometime in 1957.

Ashtabula, which boasts a sizeable transportation network, also has working in its behalf the Ashtabula Industrial Corp. This 15-year-old civic enterprise, with assets of more than \$50,000, was formed to aid industries wishing to locate in Ashtabula. The money is used to construct buildings, purchase land, and provide other types of assistance to plants relocating in the area.

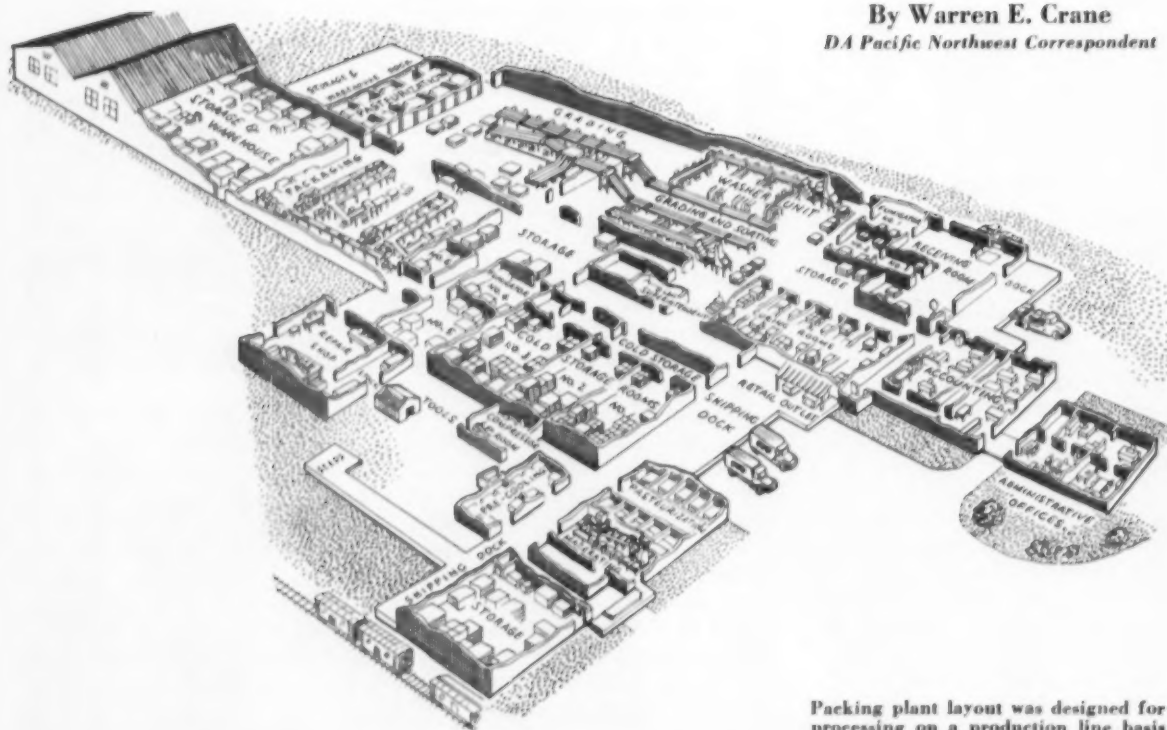
(Please Turn to Page 92)



Grading room, where expert graders perform only non-mechanized function

From Tree to Market With

By Warren E. Crane
DA Pacific Northwest Correspondent



Packing plant layout was designed for processing on a production line basis



Graders working at conveyorized tables sort the dates by size and by quality



Dates are fumigated then passed under suction fan and sent through a washer

Speed and Care

Modern tools and techniques of materials handling, storage, packaging, and transportation are utilized in moving California dates from grove to the consumer

MODERN distribution methods—including advanced equipment and techniques in materials handling, packaging, storage, and transportation—are credited with the rapid expansion of the California date growing industry.

The California Date Growers Association, of Indio, Calif., which grows and distributes about 40 per cent of the dates grown in the United States and operates the largest packing house of its kind in the world, leans heavily on modern distribution methods in moving its perishable product from grove to market.

The Association, which distributes dates throughout this country, Alaska and Hawaii, and Central and South America, stores the fruit in public warehouses. Officers of the Association have found that public warehouses offer much more flexibility and economy than its own private storage plants.

The public warehouse system fits in well with the group's distribution program. The dates are distributed through food brokers, who sell their products on a commission basis to various wholesalers and jobbers in their respective areas.

Dates are shipped from Cali-

fornia by both rail and highway carrier. Shipments to the East go by rail, to take advantage of lower rates. Emergency shipments to the same territory, however, are sent by truck. Motor transportation is used exclusively on shipments to the Northwest, and, where state restrictions are not prohibitive, to the Midwest.

The Packing House

The Association's new packing plant is designed along functional lines, permitting processing and packing of the dates on a production line basis. The entire operation is palletized.

As they come from the field, pallet loads of dates are stacked on the packing house floor, from where fork trucks transport them to fumigating chambers. The dates are held in the chambers from 8 to 10 hours. This treatment kills all contamination, including insects and insect eggs.

One hour after fumigation, when all traces of gas are gone, the dates are taken to a specially constructed machine that subjects them to the action of a suction fan. The fan removes dust and dirt and puts them through nylon rotation cleaners for washing and polishing.

The dates then are taken to a room where trained graders with
(Please Turn to Page 102)

CAREFUL attention to paperwork details has made it possible to control inventory and factory ordering for a nationwide terminal warehousing operation without having to prepare new or special source documents for the job.

This has been accomplished by supplying uniform order blanks to the 100 brokers across the country who handle and distribute Dole pineapple and pineapple juice. One copy of each order from a broker, slipped into a ring binder, serves automatically to bring a full inventory picture on 47 products up to date for the terminal warehouse from which the merchandise will be shipped.

All Dole pineapple, as well as large quantities of private label brands, is packed in Hawaiian Pineapple's 37-acre plant in Honolulu. The manufacturing facilities are more than 2,000 miles from our nearest mainland market. With water transportation, this means delays of three to six weeks in filling factory orders.

To fill the distribution gap between the plant and consumers, the Marketing Division, which is headquartered in San Jose, Calif., set up a mainland warehouse distribution plan designed to streamline marketing.

Terminal Warehousing

In establishing mainland-controlled distribution, we contracted for terminal warehouse facilities in seven major ports. This gives brokers complete flexibility in ordering factory-sized shipments of pineapple for the wholesale gro-

The author (right) and traffic manager quickly check stock status of warehouse



Paperwork for

SAN JOSE OFFICE		HAWAIIAN PINEAPPLE COMPANY, LTD.		UNIFORM ORDER BLANK			
ORDER TO	JOHN DOE WHOLESALE GROCERY CO., SAN JOSE, CALIF.	BROKER	SMITH & JONES	DATE	3-7-56		
SHIP TO	JOHN DOE WHOLESALE GROCERY CO., SAN FRANCISCO	DATE	3-7-56	<input type="checkbox"/> CASH ON DELIVERY	<input type="checkbox"/> CASH ON HAND		
ROUTE VIA	SHIPMENT	SHIPMENT	3-8-56	REMARKS			
LINE	QTY	SIZE	GRADE & VARIETY	UNIT	PRICE PER UNIT	TOTAL	REMARKS
1	100	2 1/2	FANCY	DOZ	1.00	100.00	
2	50	2 1/2	FANCY	DOZ	1.00	50.00	
3	25	2 1/2	FANCY	DOZ	1.00	25.00	
4	10	2 1/2	FANCY	DOZ	1.00	10.00	
5	5	2 1/2	FANCY	DOZ	1.00	5.00	
6	100	2 1/2	FANCY SLICED	DOZ	1.00	100.00	
7	50	2 1/2	FANCY SLICED	DOZ	1.00	50.00	
8	25	2 1/2	FANCY SLICED	DOZ	1.00	25.00	
9	10	2 1/2	FANCY SLICED	DOZ	1.00	10.00	
10	5	2 1/2	FANCY SLICED	DOZ	1.00	5.00	
11	100	2 1/2	FANCY SLICED	DOZ	1.00	100.00	
12	50	2 1/2	FANCY SLICED	DOZ	1.00	50.00	
13	25	2 1/2	FANCY SLICED	DOZ	1.00	25.00	
14	10	2 1/2	FANCY SLICED	DOZ	1.00	10.00	
15	5	2 1/2	FANCY SLICED	DOZ	1.00	5.00	
16	100	2 1/2	FANCY SLICED	DOZ	1.00	100.00	
17	50	2 1/2	FANCY SLICED	DOZ	1.00	50.00	
18	25	2 1/2	FANCY SLICED	DOZ	1.00	25.00	
19	10	2 1/2	FANCY SLICED	DOZ	1.00	10.00	
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54	10	2 1/2	FANCY SLICED	DOZ	1.00	10.00	
55	5	2 1/2	FANCY SLICED	DOZ	1.00	5.00	
56	100	2 1/2	FANCY SLICED	DOZ	1.00	100.00	
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61	100	2 1/2	FANCY SLICED	DOZ	1.00	100.00	
62	50	2 1/2	FANCY SLICED	DOZ	1.00	50.00	
63	25	2 1/2	FANCY SLICED	DOZ	1.00	25.00	
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66	100	2 1/2	FANCY SLICED	DOZ	1.00	100.00	
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74	10	2 1/2	FANCY SLICED	DOZ	1.00	10.00	
75	5	2 1/2	FANCY SLICED	DOZ	1.00	5.00	
76	100	2 1/2	FANCY SLICED	DOZ	1.00	100.00	
77	50	2 1/2	FANCY SLICED	DOZ	1.00	50.00	
78	25	2 1/2	FANCY SLICED	DOZ	1.00	25.00	
79	10	2 1/2	FANCY SLICED	DOZ	1.00	10.00	
80	5	2 1/2	FANCY SLICED	DOZ	1.00	5.00	
81	100	2 1/2	FANCY SLICED	DOZ	1.00	100.00	
82	50	2 1/2	FANCY SLICED	DOZ	1.00	50.00	
83	25	2 1/2	FANCY SLICED	DOZ	1.00	25.00	
84	10	2 1/2	FANCY SLICED	DOZ	1.00	10.00	
85	5	2 1/2	FANCY SLICED	DOZ	1.00	5.00	
86	100	2 1/2	FANCY SLICED	DOZ	1.00	100.00	
87	50	2 1/2	FANCY SLICED	DOZ	1.00	50.00	
88	25	2 1/2	FANCY SLICED	DOZ	1.00	25.00	
89	10	2 1/2	FANCY SLICED	DOZ	1.00	10.00	
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91	100	2 1/2	FANCY SLICED	DOZ	1.00	100.00	
92	50	2 1/2	FANCY SLICED	DOZ	1.00	50.00	
93	25	2 1/2	FANCY SLICED	DOZ	1.00	25.00	
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95	5	2 1/2	FANCY SLICED	DOZ	1.00	5.00	
96	100	2 1/2	FANCY SLICED	DOZ	1.00	100.00	
97	50	2 1/2	FANCY SLICED	DOZ	1.00	50.00	
98	25	2 1/2	FANCY SLICED	DOZ	1.00	25.00	
99	10	2 1/2	FANCY SLICED	DOZ	1.00	10.00	
100	5	2 1/2	FANCY SLICED	DOZ	1.00	5.00	
TOTALS						675.00	

Standard Register Co. form eliminates transcription, coding of data, can be used in all phases of distribution—marketing, sales, traffic, warehousing, and field

cers or grocery chains who, in turn, stock it locally for retail distribution.

The Old Way

For a few years after the Marketing Division was set up, we continued to handle orders from brokers in the same way as when

shipments were fob from Honolulu.

Brokers submitted orders to the Marketing Division on their own individual memo or order forms. Although the bulk of these were clearly typewritten and contained adequate product descriptions, they still had to be coded into the language of the warehousemen

Profit in Terminal Warehousing

Standardization of order forms by this Hawaiian firm, which distributes in the United States through terminal warehouses in seven major ports, permits faster order processing and up-to-the-minute inventory control

By George C. Shervey, *Assistant Secretary and Assistant Treasurer*
Hawaiian Pineapple Co., Ltd., Marketing Division, San Jose, Calif.



Inventory picture for entire distribution set-up is kept up to date by slipping broker's order into binder representing warehouse which will ship goods

before they could be processed.

A separate operation had been established to pencil in the marketing codes which corresponded with the codes on the corrugated cases for each product. Warehouse and shipping personnel work exclusively from these code letters in picking merchandise.

After this coding, there were two other separate clerical jobs in connection with processing the order:

Clerical Problems

1. Merchandise had to be charged off on inventory control records.

2. A form had to be prepared containing a shipping order and invoicing working sheet.

The actual processing of the broker's order had to be held up until the merchandise could be charged off on inventory records; because the work flow thereafter took the forms away from any spot where the Traffic Department could use them conveniently.

In both operations, clerical efficiency was hampered by the lack of uniformity in the source documents.

Inventory Control

As originally set up, inventory control was particularly cumbersome. For each of the seven terminal warehouses, there was a wide sheet of almost desk-top size ruled into columns controlling each of the products in stock. A solution was developed which resulted in a high degree of clerical cooperation between manufacturer and distributor.

The key to the success of this new system lies in the brokers using an order form supplied by Hawaiian Pineapple Co. This form was designed to reduce the clerical end of order writing in the broker's office, and eliminate

(Please Turn to Page 104)

Care and Maintenance of Fire Extinguishers

This check-list of inspection and charging instructions can be used to develop a good maintenance program for your extinguishers

IMPROPERLY maintained fire extinguishers may mean ineffective fire protection in case of emergency. A regular planned program of fire extinguisher care and maintenance will keep extinguishers ready for any emergency which may arise.

Following is a condensation of the "Safety Code For Inspecting, Recharging and Maintaining Portable Fire Extinguishers," prepared by the Fire Equipment Manufacturers' Association, Inc.

All extinguishers should be examined at regular intervals, at least several times a year, to make sure that they have not been tampered with or removed from their designated places, to detect any injuries, and to see that they are in full working order, ready for instant use.

Recharging of extinguishers should be done under capable supervision and the date of recharging and signature of the person who performed it put on the tag

attached to each fire extinguisher.

In hydrostatic pressure tests, except for carbon dioxide extinguishers, the pressure should be applied gradually to reach in about one minute's time at least 300 lb psf, not over 350 lb for hand types and not over 400 lb for wheeled types. Pressure should be held for one minute and released. If the extinguisher shows any leakage, distortion or other weakness, it should be discarded, after mutilating it to prevent future recovery and use.

Vaporizing Liquid

Vaporizing liquid extinguishers should be kept full at all times and examined at least once a year for condition of pump or pressure, and any deterioration or damage. Its operating condition is tested by discharging a small amount of

Left to Right: Ansul Chemical Co., dry chemical; Fyr-Fyter Co., carbon dioxide; W. D. Allen Mfg. Co., water; General

Detroit Corp., dry chemical; M. L. Snyder & Son, Inc., vaporizing liquid; and Stop Fire, Inc., water or anti-freeze type





FIRE PREVENTION

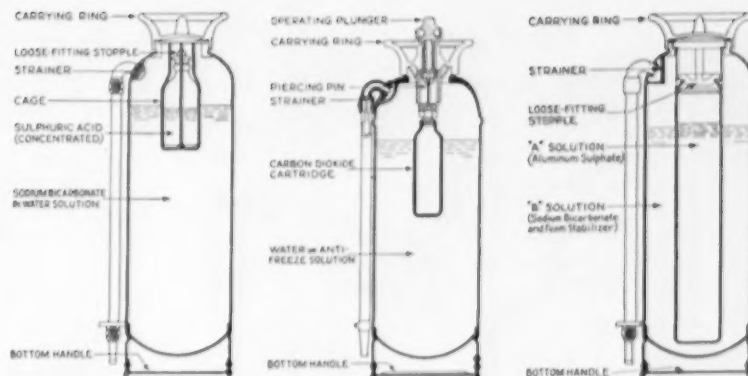
Part III—Equipment Maintenance

the extinguishing agent and refilling according to the manufacturer's instructions. If extinguishers of the stored pressure type are corroded or injured, they may be unsafe and should be returned to the manufacturer for examination.

Recharging instructions are printed on the name plate. Water never should be used in vaporizing liquid extinguishers for any purpose. Use only recharges furnished by the manufacturer.

Soda-Acid

Soda-acid types must be protected from freezing temperatures. If extinguisher shell or seams are damaged, corroded or distorted, the unit may be unsafe and should have a hydrostatic pressure test. It also should be pressure tested every five years.



Cut-away views of three common types of portable fire extinguishers, showing the inner workings of (l to r) soda-acid, water or anti-freeze, and chemical foam

In recharging, clean the interior and all parts with warm water and run water through the hose and nozzle. Be sure there are at least four full threads in good condition on the head, and be sure the head is returned to the same extinguisher from which it came. Replace the hose and head gasket if they are unserviceable. Use only recharges furnished by the manufacturer, and follow his instructions. Acid bottles and their stopples should be exact duplicates of those originally provided.

Chemical Foam

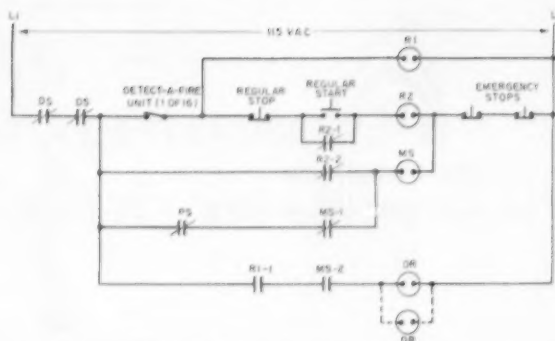
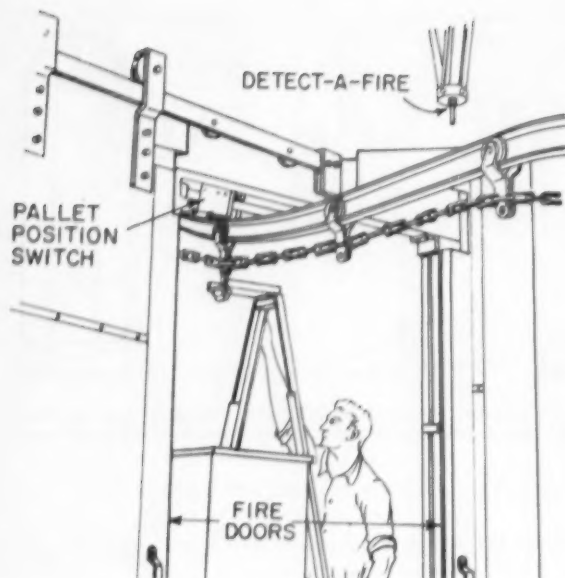
Chemical foam types also must be protected from freezing temperatures. If the extinguisher shell or seams show evidence of mechanical damage, corrosion or distortion, the unit may be unsafe and should be subjected to hydrostatic pressure test. It also should be pressure tested every five years.

Chemical foam extinguishers should be recharged annually and right after use. Clean the extinguisher interior and parts with
(Please Turn to Page 96)

Left to Right: Safety Fire Extinguisher Co., foam (truck); Badger Fire Extinguisher Co., soda-acid; Safety First Pro-

ducts, dry chemical; Elkhart Brass Mfg., soda-acid; Walter Kidde Co., water; American-LaFrance Corp., carbon dioxide





Above: Circuitry for the Fenwal Detect-A-Fire units, door-closing, and motor controls, shown when the fire doors are open and the conveyor is running. Symbols include: R1, control relay; R1-1, contacts of relay R1 (N-C); R2, control relay; R2-1 & 2, contacts of relay R2 (N-O); MS, conveyor motor starter relay; MS-1 & 2, contacts of starter relay (N-O & N-C); DS, door position switch (closed unless tripped by pallet); DR, door release

Left: Schematic view showing location of the pallet switch

Right: Detail of pallet position switch on conveyor line

THE trolley conveyor line in the finishing department at the R-Way Furniture Co., Sheboygan, Wis., is several thousand feet long. At one point it rises from the first to the fourth floor through a long inclined tunnel that could create a dangerous up-draft in case of fire.

To eliminate this up-draft, a pair of sliding fire doors was installed at the tunnel entrance. The door-closing mechanism must do two jobs:

1. Close the doors automatically, but time the closing to avoid collision with a pallet on the conveyor;

2. Shut off the conveyor as soon as the doors start to close.

R-Way devised a door-release system that is actuated automatically by fire detectors, but electrically interlocked with the conveyor drive motor. Sixteen fire detection units, set to actuate at 160 deg F, were installed at various plant locations. When any detector senses an abnormal temperature condition, it closes one of two sets of relay contacts wired in series to the door release.

The second set of relay contacts is controlled by a pallet-position switch mounted on the conveyor rail just beyond the doorway. This

Fire Door Eliminates Up-Draft Menace

An automatic door release, actuated by fire detectors and interlocked with the conveyor drive, reduces the possibility of serious loss

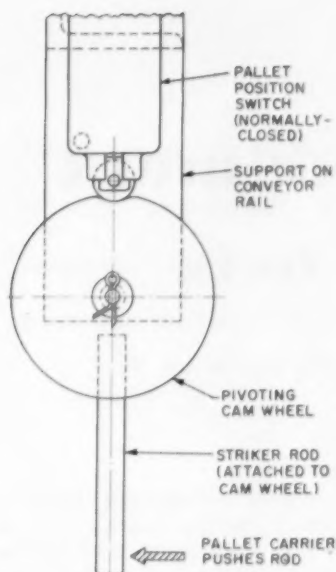
switch keeps the door release de-activated until the doorway is clear.

The pallets are mounted on 6-ft centers on the conveyor. As the oncoming pallet clears the doorway, it trips the pallet-position switch, energizing the second relay controlling the door release. The door-holding solenoids then release the doors, which slide shut by gravity. Simultaneously, the pallet switch also de-energizes the power relay for the conveyor motor, thus stopping the conveyor before another pallet reaches the doorway. A pair of normally-open

switches associated with the doors prevent the conveyor from being started unless the doors are fully open.

The detectors consist of an outer shell (temperature sensing element) made of a high-expanding metal, and an internal strut assembly made of a low-expanding metal. A rate compensation principle enables the detector to actuate at or slightly below a predetermined air temperature.

The door-closing system permits the conveyor to be shut down because of a jam, during lunch hour, etc., without operating the



doors. However, the doors will close automatically in case of fire, even when the conveyor is idle.

In case of fire, the detector interrupts the circuit containing relay R1 (see illustration above), permitting contacts R1-1 to close. At the same time the circuit containing relay R2 also is interrupted, permitting contacts R2-1 and R2-2 to open. Ordinarily current is supplied to the motor relay MS through contacts R2-2, since the pallet-position switch PS is being repetitively opened and closed as the pallets pass it. With R2-2 open, however, the current to MS is shunted through switch PS and contacts MS-1. When the next pallet opens switch PS, however, motor relay MS is de-energized, shutting off the motor and permitting contacts MS-1 to open and MS-2 to close.

Opening of MS-1 prevents the conveyor motor from restarting in case the pallet coasts past the normally-closed switch PS. With both MS-2 and R1-1 closed, the circuit is completed to the door-release solenoids DR, which permit the fire doors to slide shut. As the doors shut, switches DS open, so that the entire system is dead and cannot be restarted until the doors are pushed open again. •

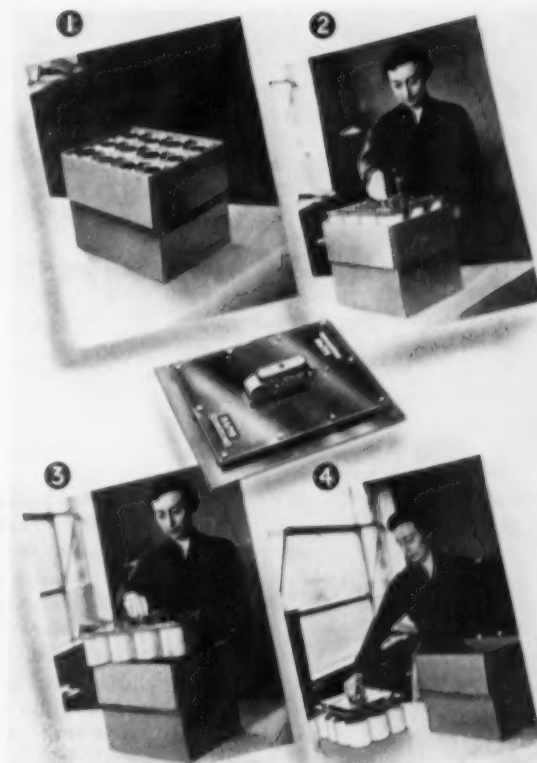
By
J. Grindrod
DA
European
Correspondent

1—Metal capped containers arrive in cartons

2—Magnetic lift is placed on top of containers to be removed

3—Cans are lifted out of box

4—Compression on handle releases cans



Metal Cans Removed by Magnetic Plate

Spring-loaded plates, one of which is magnetized, with simple compression handle form a tool which is used to lift metal capped cans from their cartons

A NEW device has been introduced in Britain which enables an operator to remove and release, by the compression of a handle, a complete layer of metal containers from their carton.

The new device is intended primarily for use in processing industries where the problem of handling metal capped containers exists.

Basically, the patented unit consists of two spring-loaded plates, normally held together.

One plate has permanent magnets suitably located to register with the metal capped containers to be lifted. The other plate has clearance holes through which the magnets protrude.

The equipment is placed on a layer of containers and lifted. On arrival at the point where the containers are required, simple compression of the handle parts the two aluminum plates and the containers are released. •

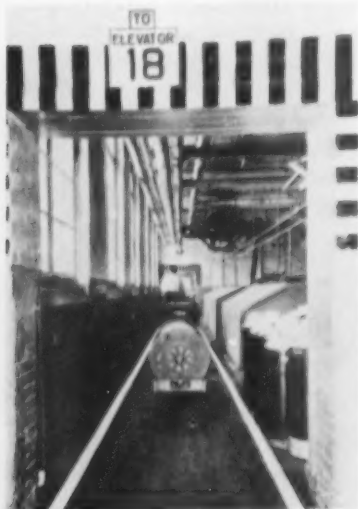
Proper Operator Judgment Cuts Operating Costs

By O. T. Henkle, Jr., Vice President, The Mercury Manufacturing Co., Chicago, Ill.



DO carry maximum loads at minimum heights to reduce the torque loading

DO outline travelways and use contrasting paint for overhead obstacles



THE human element is one of the greatest factors in the cost of fork truck operations. Fork trucks — capable of moving and tiering great quantities of stock or product — are called upon to perform quickly and economically.

Everything has been engineered into a fork truck with the exception of the skill and expertness of those people responsible for the fork truck's continued high-level productiveness. Thus, operator judgment becomes as important to a job as good truck design, material, and workmanship.

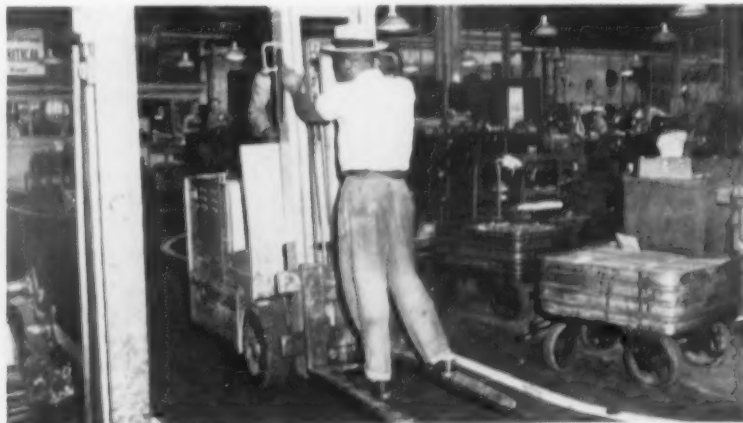
In some ways operator judgment is more important, because the lack of proper judgment can

result in considerable property damage, severe injuries or even loss of life. It must be remembered that tons of material, possessing an enormous amount of kinetic energy, are being handled whenever the fork truck is in operation. This force always must be controlled carefully if operating and maintenance costs are to be kept at a minimum.

The attainment of this objective can be aided by observing certain rules which, when tailored to individual requirements, will guide the fork truck operator to more economical and safer material handling operations. These general rules may be classified as:

A. Proper use of equipment;

DON'T use the fork truck for a taxi. Unauthorized personnel riding industrial trucks invites serious accidents, often with a resulting loss of time and money



Everything can be engineered into a fork truck for top-flight performance except operator skill and judgment—these elements thus become just as important as the design, materials, and workmanship

B. Proper loading of equipment;

C. Proper movement of loads;

D. General safety precautions.

Following is a list of 23 pointers on proper fork truck operation. Doubtless a careful analysis of your own materials handling program will uncover additional rules to be added to the list.

Proper Use of Equipment

1. The primary rule in proper use of equipment is to permit only qualified operators to drive the fork truck. Whenever the truck is left idle, the key should be removed from the cutout switch. This will render the truck inoperative and prevent unauthorized use.

2. Trucks should not be left parked in narrow aisles or other confined areas where they will obstruct the movement of other handling and production equipment.

3. Reverse gear should not be used as a substitute for brakes. This action imposes severe strains upon the drive assembly. If the brakes are faulty, this condition should be reported to the maintenance department and the necessary repairs effected immediately.

Proper Loading

4. It should be the truck operator's responsibility that each unit-load be securely piled before attempting to move the load. When this is ascertained, the operator should drive the truck

under the pallet as far as possible to avoid spilling the load.

5. The truck forks should be located centrally under the pallet. Off-center loads reduce the stability of the truck and also exert unnecessary strain on parts of the lifting mechanism.

6. Equal in importance to the location of the load, is the amount of the load. The operator should be aware of the maximum safe-loading capacity of his unit and take care not to exceed this established safe limit.

7. When carrying loads at or near this maximum limit, or when loads are being transported at high-lift on telescopic trucks, extreme care should be taken in maneuvering the fork truck. Only first or second speed should be used and the floor should be smooth and level.

8. When loading into highway trucks or trailers, be sure that the receiving unit brakes are set and wheels are blocked. If the springs are weak, the body should be supported with jacks or braces. Also inspect all car, truck and trailer floors carefully before entering with a lift truck. The operator should be certain that the floors are strong enough to support the combined weight of the fork truck and the load.

9. When starting to move the fork truck with a load, all speeds
(Please Turn to Page 93)

DON'T pick up loads with the forks off center. This causes undue stress and may result in load or equipment damage



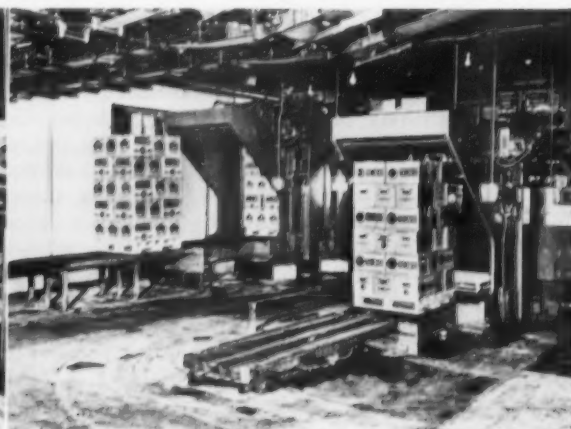
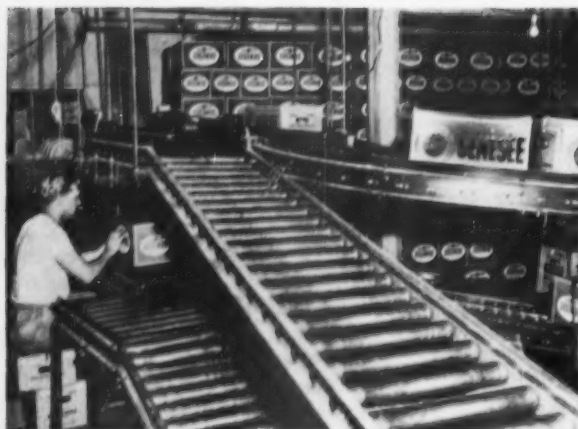
DON'T carry load in position that obstructs operator's view. If necessary travel in reverse for better operator vision



Materials Handling's

By Hugh G. Jarman
DA Canadian Correspondent

Automatic palletization has filled the handling gap between



AUTOMATIC palletization is being offered by materials handling engineers as the missing link in the materials handling phase of the production-distribution cycle.

Admittedly, mechanized handling has developed at a phenomenal rate as the best available cure-all for most production and distribution problems. There are areas, however, in which even the most advanced materials handling equipment and systems encounter slow-downs.

These bottlenecks occur, it seems, in those areas in which modernization of equipment has not caught up with the tempo of modernization in the more obvious areas.

One such trouble spot often is found in the no-man's land between production and final distribution—that point at which the product comes off the production line and is sent on its way to warehousing or shipping.

In many operations the effectiveness of mechanized tools and equipment is bogged down as manual labor struggles with the problem of moving the product from the end of the conveyor line to the shipping and receiving dock or the storage area.

Now the automatic pallet loader is being pressed into service to eliminate this bottleneck.

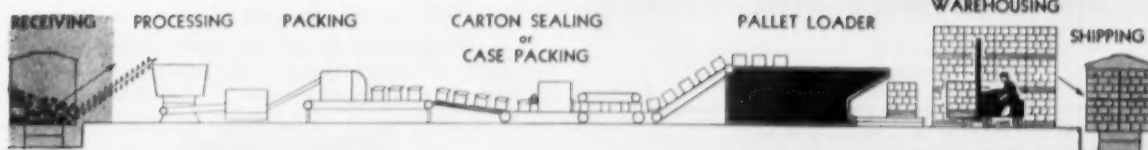
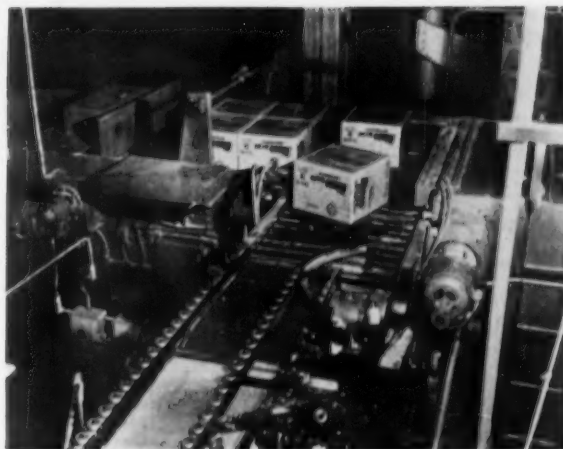
The pallet loader is an automatic machine that receives cartons from one or more sealing machines, and stacks the cartons on pallets according to a predetermined pattern. As each pallet is loaded, it is ejected automatically from the machine, and is replaced by an empty pallet. As long as the flow of cartons keeps coming, and a supply of empty pallets is maintained, the pallet loader will continue to operate without attention.

The automatic pallet loader practically eliminates manual handling of cartons after they leave the packaging machine. In a plant having a 25-carton-a-minute output, the saving in manpower often exceeds 200 man-hours a shift a week.

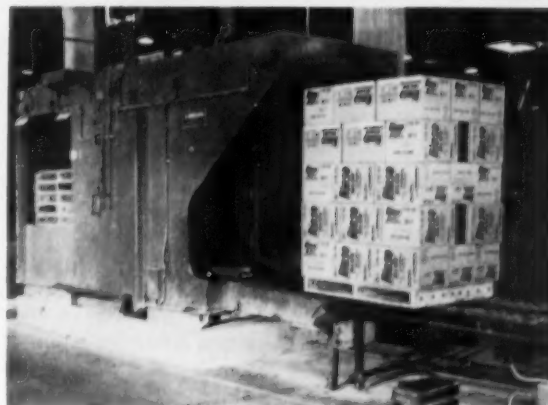
The output of the loader is uniform in both quantity and quality. It can handle up to 30 cartons a minute. Breakage of merchandise and damage to cartons are substantially less than with manual labor. Every pallet is stacked uniformly. The load is compact, stable, and free of overhang. Each pallet requires minimum storage space and can be moved without snagging adjoining structures.

Missing Link

the production line and final distribution



The sequence at left shows an automatic palletization operation at the Genesee Brewing Co., in Rochester, N. Y. The first photograph shows the collector lines, where cartons are gathered to be fed into the pallet loader. The second photograph shows loaded pallets coming out of the machines. The two automatic pallet loaders at Genesee process some 50,000 cases a day. The photographs on this page depict a similar operation at the Lever Brothers warehouse, in Hammond, Ind. In the top photograph the final carton in a layer is being rotated 90 deg. The bottom picture shows the load being discharged for removal to shipping platform



By means of a collecting system of conveyors, the output of a number of packaging machines scattered throughout the plant can be palletized at a single point by a single loader. With proper controls a loader can handle the output of packaging equipment that is operating on partial or at sporadic intervals, and where a full-time crew for loading would be highly expensive.

Economical Justification

Although the pallet loader is a time-saving machine, it is neither intended nor recommended for every plant having a packaging operation. It is a relatively expensive piece of equipment, and may require an additional investment in collecting conveyors and controls.

The ultimate justification for installing a pallet loader is not its high efficiency, but whether the initial cost of the pallet loader system will be offset by savings in plant operations.

The Sun Oil Co. has developed a cost chart analysis that bears closely on the question of economical justification of pallet loaders. The chart, as shown on page 60, compares the annual cost of pallet stacking

by manual loading and by the automatic pallet loader.

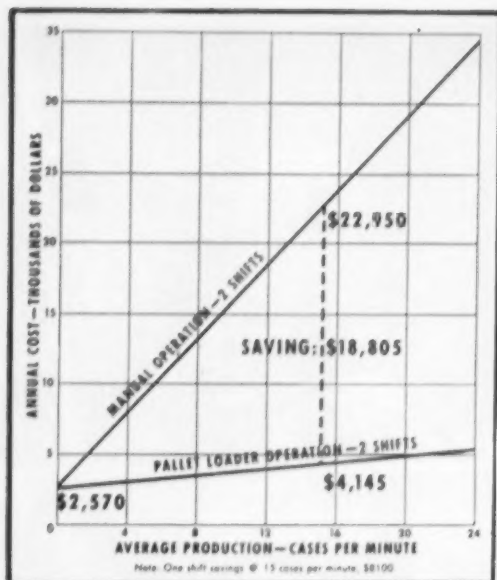
The figures are based on an assumed plant production rate of 15 cartons a minute, each weighing 50 lb, and an average stacking rate of manual workers of 5 1/3 cartons a minute. The chart compares the cost of manual and automatic operations on a two-shift basis.

Below the production figure of four cases a minute, manual operations are more economical than automatic pallet loading. In practice, however, the generally accepted production rate at which automatic pallet loading is considered economically justified is about 15 cartons a minute. This is because the cost of the entire system must be considered.

\$8100-\$18,800 Savings

The Sun Oil figures indicate a saving of \$8100 a year on a one-shift plant operation averaging 15 cartons a minute, and a saving of \$18,800 on a two-shift operation producing 17 cartons a minute.

(Please Turn Page)



Sun Oil Co. analysis chart shows \$18,805 saving on a two-shift basis via automatic pallet loading system

... Missing Link

(Continued from Preceding Page)

These savings are estimated on a basis of the production rates specified, and on the ability of a laborer to handle 5 1/3 50-lb cartons a minute.

The savings would be smaller, of course, in those plants where lighter cartons permit a higher per minute stacking rate; and higher in those plants where heavier cartons necessitate a lower per minute stacking rate.

Palletization Formula

The Sun Oil Co. formula for determining whether or not installation of an automatic pallet loader is shown below. The formula can be adapted to any palletized operation.

AUTOMATIC PALLETIZING

$$S \times A \times C$$

$$\text{Annual cost} = \frac{S \times A \times C}{(1.5r + E) + D + I}$$

Where:

- S = Number of shifts worked per day
- A = Number of days of operation per year
- C = Avg. number of cartons per minute of plant production
- r = Avg. number of cartons stacked by loader per minute
- E = One hour's wages for first class mechanic for maintenance plus materials
- D = Cost of 10-hp electricity for one shift
- I = Annual depreciation cost of equipment (about \$2500)
- I = Annual insurance cost on loader (about \$70)

MANUAL PALLETIZING

$$60 \times S \times W \times A \times R \times M$$

$$\text{Annual cost} = \frac{60 \times S \times W \times A \times R \times M}{2000 \times H}$$

Where:

- S and A = See loader formula above
- W = Weight of single carton
- R = Laborer's daily pay rate
- M = Maximum number of carton per min. of plant production (since working force must be staffed to handle peaks)
- H = Tons of cartons handled per man hour (include stand-by workers hired for relief of regular crew (usually one man per crew))

Performance Capabilities

The pallet loader can palletize up to 35 cartons or cases a minute when handling one type and size of load, and up to 30 cartons or cases when multiple sizes are being run. Some of the variables that affect loader capacity are length of cartons, number of cartons to be turned to produce interlocking patterns, size of pallet, number of cartons per pallet, height of pallet load, and number of accumulating lines.

The standard pallet loader is designed for 3000-lb unit loads with a maximum of 1000 lb per layer. The pallet loader can duplicate virtually any stacking pattern that can be produced manually. The loader can be controlled to handle 18 different patterns interchangeably.

The stacking pattern formed by the loader is controlled by an electronic cartridge, which causes the loader to follow a set sequence of operations.

It is not possible to get an interlocking pattern with cubical boxes without either excessive overhang or waste pallet space.

Collecting Conveyors

When a single sealing machine does not have the output of the loader, the usual practice is to feed several sealers into the pallet loader. This arrangement calls for a system of collecting conveyors, which store the cartons coming off each sealer until a full pallet load is collected.

Each sealer is connected by power and gravity-roller conveyors to an accumulator line.

This accumulator line is long enough to accommodate the number of cartons necessary to equal about one and one-half pallet loads. An electric limit switch is mounted on each accumulator line at a distance equal to the sum of the lengths of the cartons making up a full pallet load. When this switch is depressed for a few consecutive seconds, as it would be when a full pallet load has been accumulated, it sends a signal to the cartridge on the pallet loader.

One of the controls on a pallet loader is a scanning devices which hunts for a full pallet signal from the limit switches on each of the accumulating lines. If no signal is received from the switch on the first line, the sequence selector will test the signal from each of the other lines in succession.

When a full line is detected, the selector control will choose this line as the next line to feed the pallet loader. As soon as the loader is ready to start a new cycle, the control selector will start the powered metering belt from the filled accumulative line. At the front end of this belt is a photo cell counter which counts the number of cartons coming by.

As soon as a pallet load has passed the counter, it automatically shuts down the metering belt so that no further cartons are fed to the pallet loader. The line selector system then is ready to pick another line and the cycle repeats.

The completed pallet is discharged out of the machine on a section of conveyor, from where it goes to
(Please Turn to Page 103)

A NEW push-button mill capable of producing a million bags of poultry feed annually has been completed for the Inter-County Farmers Co-Operative Association, Inc., Woodridge, N. Y.

Master Control Panel

The entire plant operation is directed from one master control panel, easily managed by a single attendant. Chief advantage of the electronically controlled mill is that it enables the producer to keep production costs in line in spite of advancing production and distribution costs.

Complete Automation

The mill is completely automatic. Raw material is unloaded from a freight car by a pneumatic conveyor. The material then is fed by screw conveyors into the soft-feed bins. Other screw conveyors directly below each bin convey materials into the scale, located over the mixers. The mixed batch is put through a gyrowhip before being deposited in the finished-feed bins. The finished product is either put through a bagger, or loaded directly into a bulk-feed truck.

The three distinct functions of the mill—batching, bin control,

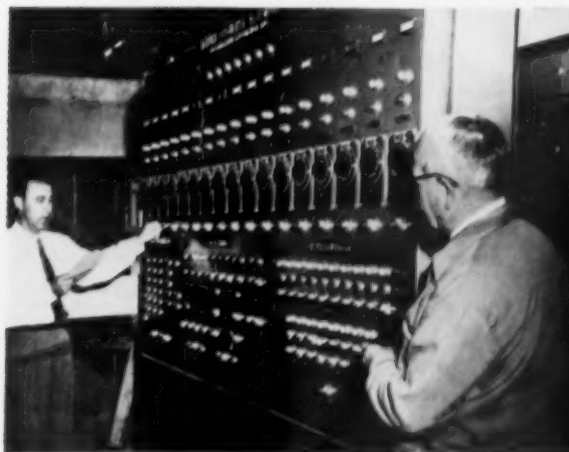
and distribution—all are controlled from a single point, the master control panel. The operator sets up a desired formula by adjusting the proper weight selector dials. Each of the selected ingredients is fed in sequence to a three-ton weighing hopper. The scale discharges completed batches alternately to two mixers. Following a pre-set mixing time, the blended batch is discharged automatically and routed to a pre-selected storage bin.

Electronic Control in the Feed Mill

Push-button control and complete automation enable this mill to produce one million bags of feed a year—faster and more economically

The panel has a pilot light system which enables the operator to follow the batching step-by-step through the process, and to observe the functioning of all related machinery in the mill. It also is possible to operate the equipment involved in the batching cycle manually via individual controls on the panel. This provides an alternate method of operation which offers greater flexibility and the advantage of having standby controls. •

Operator sets a feed formula on Richardson Select-O-Weight control panel, which permits one-man control of mill



Duplex sacking scale installed beneath feed bins weighs and seals from 14 to 20 bags of poultry feed a minute



Torque Converters for



By John R. Lawson
*Maintenance Foreman
Butler Manufacturing Co.
Galesburg, Ill.*

A COSTLY experience with a positive clutch arrangement formerly used caused the Butler Manufacturing Co., Galesburg, Ill., to convert to a torque converter engine for repowering a 30-ton yard switching locomotive.

Several years ago the firm, which handles over 2,000 incoming carloads of materials a year for its manufacturing facilities, decided it needed a switch engine which could pick up cars on a lead track outside the grounds, spot them at various fabricating buildings or loading docks, and take out the empty cars.

In 1949 the company purchased a used 56½-in. gage, 30-ton locomotive. The unit, built in 1936 was originally powered by a gasoline engine and later by a diesel engine. In both installations a positive clutch arrangement was used.

Irregular Operation

Two main railroad lines and a transfer line are located near the plant. Running off the transfer line is a lead line on which the company's locomotive picks up all incoming cars. Fanning out from the lead are seven spurs which allow the cars to be spotted at various key spots throughout the plant.

Because of the small amount of

track going to the seven different plant locations, the locomotive has little need for speed. However, its operations are very irregular, with considerable starting and stopping.

Chronic Clutch Trouble

The result of this irregular operation was chronic clutch trouble. The situation reached a point where we were changing clutch plates and bearings every four to six weeks at a high cost for repairs and downtime.

The firm paid some \$1,300 for repairs on the locomotive during the first six months of 1954, with 90 per cent of the expense going into repairing the clutch. It took 16 hours to remove the clutch and

put in new parts whenever a breakdown occurred.

On an average, the operator hooks on to three or four cars. To start this weight moving without stalling the engine, he had to accelerate the engine and then slip the clutch. It didn't take long for this constant slipping to burn out the clutch. There were times when the pressure plates would be fused together and would have to be cut out. The drive chain was sheared on two occasions, and the facings on the pressure plates constantly were being burned off.

Decreased Efficiency

Decreased efficiency in operation also was a result of this chronic clutch trouble. To save



A 30-ton yard locomotive moves empty car to siding for pick-up

Yard Switchers

operating costs negligible, reduced maintenance



Above: This 250-hp diesel engine has increased efficiency of locomotive by adding power and eliminating chronic clutch troubles formerly had with the positive clutch arrangement



Modification in cab included addition of remote throttle control and a tachometer

the clutch, less cars would be hauled than the unit could handle ordinarily.

Originally, Butler planned to replace the positive clutch with a fluid coupling, but it was discovered that it would require considerable modification because of the added length to the engine. However, after further investigation it was found that by trading in the old engine on a new unit with a torque converter there would be only a relatively small increase over the purchase of the fluid coupling and modifying the unit.

Conversion Operation

In the summer of 1954 Butler won a large government contract for grain bins with a time limit

on the agreement. It was decided to convert to the torque converter diesel engine before this got underway so that the company could be assured of no extended breakdown in the flow of material during the time the plant was working at full, three-shift capacity.

A 250-hp torque converter engine (now rated at 310 hp maximum at 2,000 rpm) was installed in the locomotive (without interfering with regular operations) with a minimum of modification of frame, drive train and transmission. The largest modification was fabricating 4-in. pads for the engine to sit on, so that it would connect with the drive sprocket at the same level as the previous engine.

The frame also was strengthened some to take on the extra weight. Two containers were built on each side under the cab to hold 800 lb of additional weight, giving the more powerful engine better traction. The original four-speed transmission, driven by a 7-in. silent chain drive, was left untouched by the conversion. Only three of the speeds are used. Because of the speed limitation of the track, the high speed range is not needed.

In the cab, there were only two changes brought on by the new engine. The first was a new remote ratchet throttle control connected directly to the governor by a solid rod. The other was the

(Please Turn to Page 94)



PRODUCTS

... FOR FURTHER INFORMATION

Safety Diesel Fork Truck

Allis-Chalmers, Buda Div., has developed a series of special diesel powered, Non-Electric Fork Lift Trucks in 3000 to 10,000-lb capacities that are suitable for use in areas where ordinary, non-protected trucks are prohibited. Use of the Diesel



engine in these trucks completely eliminates hazards due to possible electrical sparks. The Diesel engine does not require an electrical ignition system, since combustion chamber ignition results from engine compression only. The engine is started by means of a hydraulic motor. The starter motor is operated by the driver from his position on the truck by simply releasing a mechanical lever.

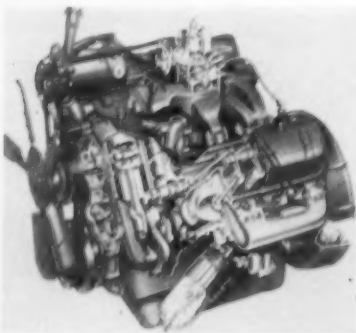
Circle 40 on Card Facing Page 71

New V-Line Trucks

A quieter, more comfortable cab and easier steering are among features of the new International V-line trucks announced by the motor truck division of International Harvester Co. An improved Comfo-Vision cab is subjected to reduced stresses through outrigger front mounting and added shackle mountings at the rear. These improvements mean longer cab life with less maintenance, less driver fatigue, and better ride.

Easier steering has been provided through an improved steering column and wheel angle. The steering column

passes up through the floor, rather than through the tow-board, with the result that the steering wheel angle is more "flat." This makes for more comfortable steering effort on the part of the driver, provides him with more room under the wheel and per-



mits him to assume better posture. Nine heavy-duty four- and six-wheel truck series, in conventional and cab-over-engine designs, make up the new International V-line which is engineered around three new truck-type V-8 engines—the V-401, the V-461, and the V-549.

Circle 41 on Card Facing Page 71

Wirebound Pallet Boxes

A group of standardized wirebound pallet boxes for handling, storing and shipping industrial bulk loads has been announced by General Box Co.



Four sizes of re-usable, heavy duty pallet boxes with cleats on the outside are available in regular or open front form. The latter, available with or without gate is ideal for storage. These pallet boxes are easily assembled and knocked-down for return in shipping operations. They can handle loads of 2000 to 3000 lb and are easily stacked when necessary.

Circle 42 on Card Facing Page 71

Inclined Storage Racks

Nine 60-ft bays of inclined storage racks have reduced by 50 per cent the aisle space required per front and improved shipping flow for Holo-Krome Screw Corp. Gravity does the work in the system. Cases of pre-packed hex socket screws are stored on inclined runners. When an order-picker removes the case he wants from the rack front, the cases behind slide down into front position, ready for picking. The Pick-A-Case racks are loaded from behind. Cases are removed from the front. Traffic is



stepped up because feeding and picking aisles function independently, without jams or interruptions. Each 60-ft rack bay holds about 540 items. The installation affords 1085 fronts. It was designed, fabricated, and installed by Artco Corp.

Circle 43 on Card Facing Page 71

Platform Truck

This platform truck is designed for handling lcl shipments in freight terminals where it can be used in con-



junction with an underfloor conveyor system. The truck, featuring rugged construction and simplified design, is produced by Orangeville Mfg. Co.

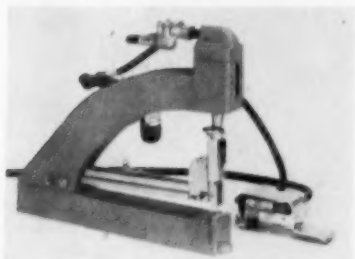
Circle 44 on Card Facing Page 71

and EQUIPMENT

PLEASE USE THE READERS' SERVICE CARD • • PAGE 71

Air-Drive Bench Stapler

The model KAD bench stapler, manufactured by **Bostitch**, has several new features, including an air-drive unit that can be triggered by either hand or foot. Several different heads and staple sizes can be used on the

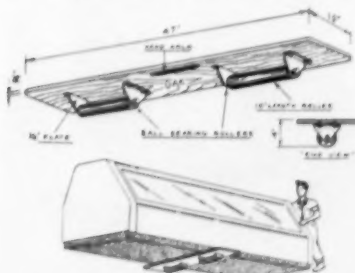


KAD stapler. Heads can be changed quickly and easily to suit the requirements of a particular job. For high-production jobs, two or three of these machines can be set up to work as a single unit, their overall width allowing a minimum center-to-center spacing of two inches. Almost any job can be performed by the KAD stapler with 60 lb of air pressure. When light staples are used, 25 to 30 lb is adequate.

Circle 45 on Card Facing Page 71

Heavy-Duty Roller Dolly

A new Roller Dolly has been announced by the **Store Engineering Co.**, for moving heavy objects such as refrigeration cases, large crates,



etc. It's made of hard oak lumber with two 2 x 10-in. heavy steel rollers mounted side by side. One man can easily handle a 12-ft refrigeration case or crate and make a complete turn in the object's own length. Longer and larger objects also can be carried.

Circle 46 on Card Facing Page 71

Forward Control Delivery Body

A new forward-control delivery body designed for use on retail routes where a lower and narrower body is desired has been announced by **Boyer-town Auto Body Works**. The new light-weight, hi-tensile steel walk-in type body has a large 242-cu ft capacity with inside dimensions of 102-in. length, 66-in. width, and 62-in. height. It has a full-square loadspace for efficient loading and ease of installing cabinets and shelving. Addi-

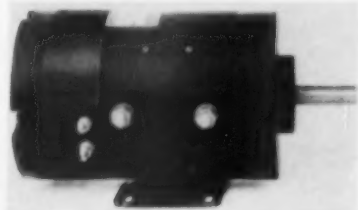


tional features in the new MN-8 Merchandiser are a roof insulated with fiberglass, interior sides and ceiling lined with steel and square wheel-houses for efficient loading. Full opening 66-in. rear doors which fold back against the body sides are available.

Circle 47 on Card Facing Page 71

Battery Truck Motor

A new battery truck motor for industrial electric trucks and small personnel carriers, has been developed by the **General Electric Co.** With a high starting torque that provides fast acceleration and uphill operation, this d-c motor is designed to Underwriters specifications. In ratings from 1 to 2 hp, the new motor's high efficiency results in low battery drain,



according to company engineers. It is suitable for small battery-powered vehicles such as industrial rider-type trucks, baggage carriers, and inside transportation equipment.

Circle 48 on Card Facing Page 71

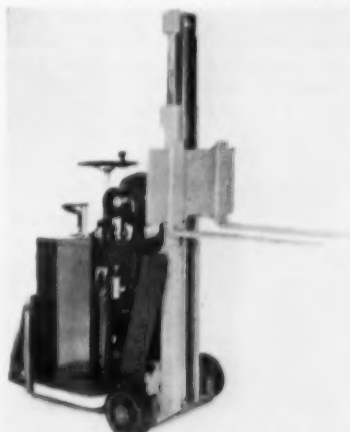
Anti-Freeze Tester

Truck owners can easily test the safe cold weather temperature of any anti-freeze solution used in motor radiators with a pocket-sized device, the Cold Cup, now available from **Darbo Enterprises**. Anti-freeze can be tested under actual operating conditions with the Cold Cup. A thimbleful of anti-freeze solution is taken from the radiator and put in a small metal cup on the tester. Then the solution is frozen, either with a two-inch sparklet type capsule containing CO₂ or a CO₂ fire extinguisher. The freezing point is read on a thermometer set in the Cold Cup. No charts are needed, and tests can be made while the engine is cold.

Circle 49 on Card Facing Page 71

Light Weight Fork Truck

A new fork-lift truck designed for quick stacking of loads up to 1000 lb in the narrow storage aisles is announced by the **Colson Corp.** The unit is particularly applicable for such light but bulky loads as furniture, appliances and other consumer products, and of factory storeroom items. Its low weight of 2168 lb makes it



possible to use the truck on old floors, elevators and truck beds where the heavier, larger trucks cannot be used. The Handler Fork Lifter can stack loads 30 in. long in aisles as narrow as 6 ft 8 in. Turning radius is 3 ft 6 in. It lifts a load 12 ft in 16 seconds.

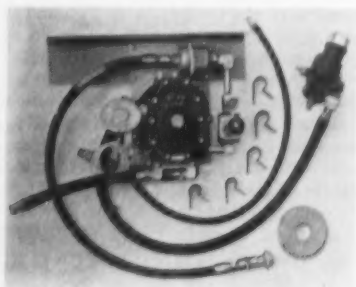
Circle 50 on Card Facing Page 71
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DA NEW PRODUCTS and EQUIPMENT

CONTINUED FROM PREVIOUS PAGE

LP-Gas Conversion

Conversion to LP-Gas carburetion of any industrial truck has been simplified to such an extent by **Beam Products Mfg. Co.**, that any mechanic



can handle the job without prior training or special tools. Beam conversion assemblies weigh only 16 lb ready for shipping, and include mounting brackets pre-fitted to the frame of the model lift or truck to be converted. No drilling is required.

Circle 51 on Card Facing Page 71

Steel Swivel Truck Casters

Development of the new 50-A Series Pressed Steel Swivel Casters was announced recently by **Bond Foundry & Machine Co.** The new design, it is said, makes it unusually strong, rigid, yet light in weight.



Among the features of the 50-A Series is a ballrace of improved design. This ballrace not only carries the load, but absorbs side thrust between the deeply embossed outer apron of the base and the formed inner flange of the fork.

Circle 52 on Card Facing Page 71

Steel Reinforced Grain Door

A steel-reinforced grain door, which can be installed by one man in five minutes and which substantially reduces box car damage and load leakage, has been announced by **Acme Steel Co.** The new door consists of heavy reinforced paper supported horizontally by two steel beams and vertically by four wide, steel slat-braces. A 2 x 2-in. pryboard and a 1



x 6-in. climb-out board are attached to the reinforced paper with heavy duty metal stitches as are the vertical slat-braces. The strong reinforcement of the door eliminates outward bulges caused by weight shifts in the grain load.

Circle 53 on Card Facing Page 71

Telescopic Bag Conveyor

A new flat-belt bag conveyor features variable belt speeds and an adjustable frame to meet a variety of conveying requirements, according



to an announcement by **Richardson Scale Co.** The frame of the new conveyor is telescopic to provide a choice of conveying lengths. It is constructed in two parts. The rear half can be telescoped over the front half for a

minimum conveying length of 7 ft. Full length, with both sections fully extended, is 12 ft. Motor equipment, including motor platform, for the conveyor is available as an optional component.

Circle 54 on Card Facing Page 71

Typewriter Encoder

For use in conjunction with its Stanomatic, the electronic unit that senses and translates preprinted coded information from business forms, **Standard Register Co.** has developed a Typewriter Encoder. The device, which can be attached to any standard model electric typewriter, enables a single operator to type



numerical information and its dot-code counterpart on the same form at the same time. As a result, faster translation of vital information from source document to Stanomatic to high speed business machine is possible.

Circle 55 on Card Facing Page 71

Heavy-Duty Hydroelectric Trucks

Lift Trucks, Inc., has expanded its heavy-duty platform trucks, making available the hand motorized truck in capacities up to 20,000 lb. The Hydroelectric up to and including



14,000 lb. capacity is driven by the Dyna Dual completely enclosed drive unit. In capacities of 16 to 20,000 lb. twin dual drives are used. Platform widths of 27-in. minimum, and lengths of 48-in and up are available in lowered heights of 9, 10, 11 in. of lift.

Circle 56 on Card Facing Page 71

Stock Picker Truck

Rol-Away's newest Stock Picker model, manufactured by Rol-Away Truck Mfg. Co., is designed for handling packaged goods or small parts in narrow aisles and cramped quar-



ters. Measuring only 41 by 20 in. it enters and turns in the smallest of spaces. A space-saving safety ladder folds up close to the truck. The ladder operates by a lock lever which automatically folds the ladder when not in use.

Circle 57 on Card Facing Page 71

Wet Chemical Extinguishers

A new line of wet chemical portable fire extinguishers which includes pressurized and brass container units has been introduced by Walter Kidde & Company, Inc. Portable extinguishers in the new wet chemical line include a 2½-gal pressure operated combination water and anti-freeze extinguisher. Due to its tin lined, brass container construction, this extin-



guisher is completely non-corrosive and may be charged with either clear water or anti-freeze solution. The extinguisher has an on-off squeeze type of valve and a pressure gage built into the side of the valve which at a glance reveals the readiness of this portable for use. As the charging pressure of this extinguisher is only 100 psi, it may be charged at any gas

station charging pump. Other additions to the wet chemical line are 2½-gal and 5-gal pump tank type extinguishers, using either stainless steel or copper containers and which may be charged with clear water or anti-freeze solutions.

Circle 58 on Card Facing Page 71

Power Steering Model

The Truck-Man Div., Knickerbocker Co., announced recently production of a new model fork-lift truck, Y-60, that is the most powerful Truck-Man ever built. It features a 6000-lb lift with power steering as standard equipment. Powered by a 226-hp, 20-

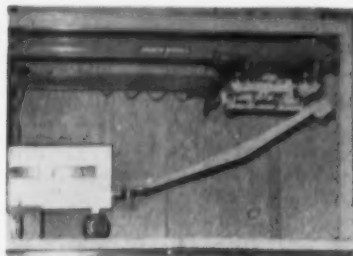


mph Continental engine with 7.50 x 15, 12-ply drive wheel tires (6.00 x 9 10-plys at the rear), the Y-60 finds no terrain too difficult or load too tough. Its telescoping mast has a 9-in. free lift with a 10-deg forward tilt and 4-deg back.

Circle 59 on Card Facing Page 71

Boom Type Crane

This, The American MonoRail Co., boom-type crane moves back and forth on the craneway; carrier traverses both directions on crane bridge; boom arm raises and lowers as well as

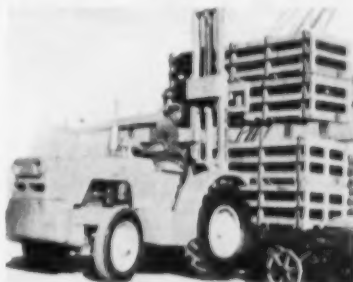


swings in both directions in an arc; and a special grab at the end of the boom engages or releases a box type load. All movements are controlled from a push-button station.

Circle 60 on Card Facing Page 71

Outdoors Material Handling

Ottawa Steel Div., L. A. Young Spring & Wire Corp., has introduced the new Tracto-Lift, especially designed for outdoor materials handling. Large pneumatic tires on the front drive axle provide super trac-



tion and excellent floatation for the economical handling of all materials in outdoor storage areas. Extra ground clearance and shortened wheelbase also contribute to the efficiency and maneuverability of the truck, which is available in three basic models: TL-50, 5000-lb capacity; TL-60, 6000-lb capacity; and TL-70, 7000-lb capacity.

Circle 61 on Card Facing Page 71

Laminated Rain Tents

Cargo steamers operating in areas where sudden tropical flash storms occur frequently are carrying rain tents made of new laminated material to cover open hatches quickly and prevent cargo damage. The tents are 42x26 ft at the base and 18 ft high. By laminating Krene plastic to both sides of nylon fabric, a strong but light-weight material has been developed by Herculite Protective Fabrics. About one-third the weight of cotton



duck canvas, this Herculite protective covering has a tear strength of 85 lb and will not support combustion, it is claimed.

Circle 62 on Card Facing Page 71

(Please Turn Page)

DA NEW PRODUCTS and EQUIPMENT

CONTINUED FROM PREVIOUS PAGE

Drum Cradle Truck

A retracting caster frame gives the Morse Mfg. Co. Drum Cradle Truck No. 55-0 a long, wide and safe wheel-base. The frame swings inside the rockers while the drum is being rocked up and loaded. It is then thrown forward by pressure on the

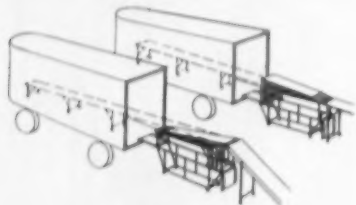


foot lever, placing the casters well in front of the truck. A safety catch is located on the nose piece to prevent the drum from slipping while being loaded. The truck has a side opening for drums which must be dispensed into a horizontal position from the side.

Circle 63 on Card Facing Page 71

Mobile Dock & Conveyor

A new concept intended to speed truck loading and unloading from ground to body level has been developed by the Wilkie Co. A unit, consisting of the Wilkie telescopic conveyor and a mobile dock, has been designed especially to ease loading



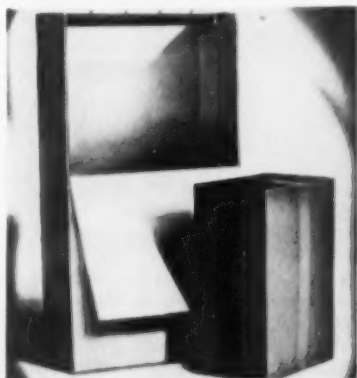
problems where no dock exists or where the dock platform is considerably lower than the truck flooring. The conveyor is mounted on a mobile dock. For loading, the dock is wheeled into position . . . a hinged ramp is dropped to span the distance be-

tween truck floor and dock . . . a power conveyor system raises goods to be loaded, the telescopic conveyor gradually is shortened, until the entire unit rests on the dock.

Circle 64 on Card Facing Page 71

Improved Wardrobe

Offering a long-felt need for greater ease of handling bulky wardrobe containers, Chippewa Paper Products has now designed hand-holds into its Jiffy and Jiffy-Mate wardrobes. In announcing the new hand holds Chip-



pewa notes that moving a fully loaded wardrobe always has been a problem. Struggling with a big, cumbersome wardrobe with grip-less smooth, slippery sides is annoyingly time-consuming, often calling for a hard-to-rig-sling arrangement.

Circle 65 on Card Facing Page 71

Waterproof Cloth Tape

A new multi-purpose colored waterproof cotton cloth tape has been developed by the Permacel Tape Corp. Designated Permacel 68, the new pressure sensitive tape combines excellent tensile strength with a high degree of moisture resistance. Average values are: Adhesion 40 oz per in. of width to plastic, and 32 to steel; Tensile strength 60 lb per in. of width. For color identification applications, it is available in red, black, white, brown, yellow, dark blue, light blue, green, pink and olive drab.

Circle 66 on Card Facing Page 71

Industrial Air Tacker

Five thousand staples can be driven continuously from a single cartridge load by the new Load-O-Matic air tacker, introduced by Swingline, Inc. Break-resistant and compact, the plas-



tic cartridge of this pneumatic precision tacker, holds a continuous belt of high carbon fasteners which are air-driven through the pistol-shaped tool by releasing its trigger. Seventy-two times more jam-proof than an ordinary tacker, the Load-O-Matic increases production output as much as 80 per cent.

Circle 67 on Card Facing Page 71

Piggy-Back Cargo Cooler

The special requirements of piggy-back operations for refrigeration equipment have led to the development of a portable model cargo cooler built by the Hunter Mfg. Co. The new Model 83-1-X Portable, a thermo-

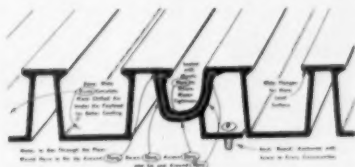


statically controlled, forced-air-circulation system with 21-block, 1050-lb dry ice capacity, is engineered to provide quick easy installation and removal as required in trailers employed in piggy-back routings. Mounted on steel casters, it rolls easily into place in the rear of the trailer after cargo has been loaded. Weight of the unit is quickly transferred from the casters to spring-loaded leveling jacks for solid support on the floor.

Circle 68 on Card Facing Page 71

Duct-Board Trailer Floor

Fruehauf Trailer Co. has introduced on some of its models a new type of aluminum duct-board floor which has several advantages over the old construction. This floor is an interlocking type of floor designed to produce deep, wide ducts which circulate more chilled air under the payload for



better cooling on refrigerated units. The method of construction practically insures a water-tight unit even without additional precautions, but the interlocking joints are sealed with mastics which insure water-tightness. The new sections provide additional load surface because of the wide upper flanges. Each floor board unit is anchored by means of a screw to the trailer crossmembers.

Circle 69 on Card Facing Page 71

Labels For Typewriter Use

Labelon Tape Co. announces development of an improved flat write-on-it label designed for easy use in all typewriters. The new tape fea-

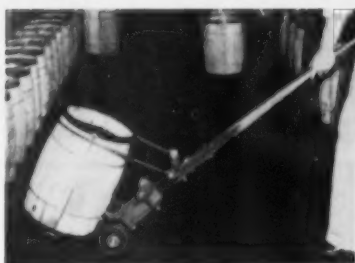


tures an extra layer of transparent plastic over the writing surface, designed to prevent possible cutting of the tape when used in electric type writers.

Circle 70 on Card Facing Page 71

Simple Keg Truck

Probably one of the most useful tools around the plant at The Cleveland Cap Screw Co., is this specially-built keg cart. Adapted from an earlier design, this cart is used to move filled kegs of cap screws, place bolts or special fasteners from the cold heading machines to storage and shipping areas. These handy two-wheeled carts, with a specially shaped, curved hardwood pole made of straight-grained wood to prevent possibility of splintering, have increased

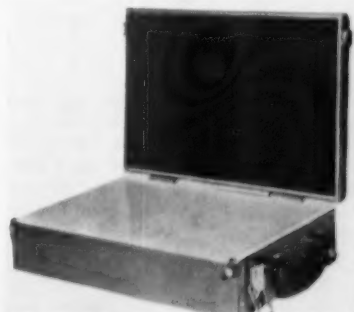


flow of kegs from manufacturing to storage by at least 50 per cent, Cleveland Cap estimates.

Circle 71 on Card Facing Page 71

Portable Photo Copier

A Portable Photocopier, designed to copy pages of bound books just as easily as flat material, recently was introduced by Remington Rand. Weighing only 13 lb complete with cover, the all-metal unit is finished

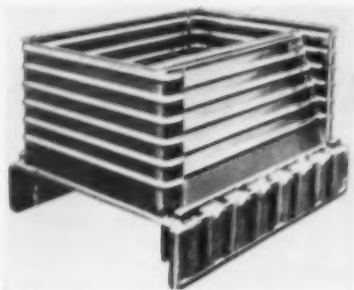


in Gray-Rite. Simple to operate, it produces full-size copies of any record—types, printed, or handwritten, on paper, cloth, film, or even heavy card stock.

Circle 72 on Card Facing Page 71

Collapsible Steel Box

Eliminating up to 66 per cent of the space needed to store and ship empty boxes, a new fold-away materials handling box which can be reduced to 20 per cent of its original size has been developed by the



Pressed Steel Div., Republic Steel. Made of corrugated steel, the box has collapsible sides.

Circle 73 on Card Facing Page 71

Aviation Batteries

Exide aviation batteries for commercial and military transport service have been improved to provide increasingly dependable reserve power and to give higher capacity performance and longer service life.

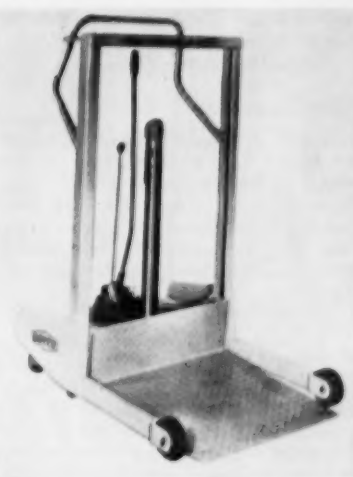


The transport batteries now have Silvium alloy positive grids, a lead oxide active material designated GOX and Pormax plate separators, all developments of Exide Industrial Div. The Electric Storage Battery Co. Weight and size of the batteries remain within military requirements.

Circle 74 on Card Facing Page 71

550-Lb Hydraulic Lift

Designed for handling small, heavy loads, a 500-lb capacity hand-operated, portable hydraulic lift has been de-



veloped as one of a complete new line by The Oster Mfg. Co. For maximum flexibility the unit can be used as a stacker or a work platform.

The carrier comes equipped with a 24 x 24-in. reinforced steel platform that lowers flush to the floor to slide under loads, and has adequate lift height to reach benches, machine beds, etc. Its size enables it to be moved easily in crowded aisles, into over-the-road carriers or onto elevators.

Circle 75 on Card Facing Page 71

**FREE**

LITERATURE

Warehouse Directory

The 1956 Membership Directory of the American Chain of Warehouses, Inc., a national sales organization representing public warehouses in all sections of the country, is available.

Circle 76 on Card Facing Page 71

Refrigerated Warehouses

The National Association of Refrigerated Warehouses announces its new 1956 Annual Directory of Public Refrigerated Warehouses. The Directory contains a comprehensive listing of the services, facilities, etc., of all member warehouses of the NARW.

Circle 77 on Card Facing Page 71

Overhead Trolley Conveyor

A new bulletin describing how to get maximum performance and longest service life from overhead trolley conveyors has been released by Rapidistan, Inc. It contains practical tips and detailed sketches assembled to assist the maintenance man.

Circle 78 on Card Facing Page 71

Level Indicator

A four page bulletin has been issued by Fuller Co. describing the Fuller material level indicator Model SG-4. It explains the use of the level indicator which indicates or controls the level of dry, pulverized, fine, crushed and granular materials passing into or out of a bin, silo, or bunker.

Circle 79 on Card Facing Page 71

Rotator Drum Truck

A two-page bulletin No. 1153, published by Morse Manufacturing Co., Inc., describes the Morse DeLuxe 500 Portable Rotator Drum Truck. Safely rotating at fixed speeds drums weighing up to 500 lb, the Morse Drum Truck revolves up to 55-gal containers.

Circle 80 on Card Facing Page 71

Industrial Trucks

Hyster has prepared a bulletin illustrating its complete line of industrial trucks. Included are fork trucks, straddle carriers, crane trucks, scoops, industrial tractors, and attachments for all models.

Circle 81 on Card Facing Page 71

Wire Rope

Get the right rope for the job is the theme of a new booklet "Longer Life from your Wire Rope," published by United States Steel.

Circle 82 on Card Facing Page 71

Tubeless Truck Tires

"How to Service Tubeless Truck Tires" is the title of a 12-page booklet prepared by The Rubber Manufacturers Association. The booklet contains detailed illustrated instructions on servicing tubeless truck tires.

Circle 83 on Card Facing Page 71

Industrial Insulations

Owens-Corning Fiberglas has prepared a 132-page, Industrial Insulations Catalog, AIA File No. 37-D. It contains descriptions of all Fiberglass insulations, as well as pricing and ordering information, application details, etc.

Circle 84 on Card Facing Page 71

Packaging and Carloading

A new, 48-page booklet, the 17th edition of Packaging and Carloading Guide, has been published by Signode Steel Strapping Co. It tells how to package and carload for maximum product protection at minimum cost.

Circle 85 on Card Facing Page 71

Application Analysis

A new eight-page illustrated application analysis, No. 152, on materials handling in grocery warehouses has been compiled by Lewis-Shepard Products, Inc. Included in this analysis are descriptions and illustrations of typical installations with discussions on warehouse size, aisle widths, pallet sizes and method of storage, etc.

Circle 86 on Card Facing Page 71

Hand Addresser

A folder describing new design in the Scriptomatic Hand Addresser for addressing small lists is offered by Scriptomatic, Inc.

Circle 87 on Card Facing Page 71

Air Routing Guide

Slick Airways, Inc. has prepared a world-wide routing guide for shippers into and out of San Francisco, Oakland, Los Angeles and San Diego.

Circle 88 on Card Facing Page 71

Safety Code

The Fire Equipment Manufacturers Assn., Inc. has prepared a booklet "Safety Code for Inspecting, Recharging and Maintaining Portable Fire Extinguishers." The booklet gives charging and inspecting procedures for the ten common types of portable fire extinguishers.

Circle 89 on Card Facing Page 71

Steamship Directory

An informative brochure, the "Port of New York Steamship Services Directory" is being offered by The Port of New York Authority. It lists steamship lines and agents, world ports, steamship trade routes, and steamship piers.

Circle 90 on Card Facing Page 71

Heavy-Duty Trucks

A new 20-page catalog No. GR-674-F, containing complete information on International four-wheel conventional and cab-over-engine heavy-duty trucks with six-cylinder engines has been prepared by International Harvester Co.

Circle 91 on Card Facing Page 71

Walkie Trucks

The Moto-Truc Co. has released an eight-page catalog describing its line of electric powered, walkie truck models, including capacity and dimensional specifications. Data on pallet trucks, low lift platform trucks, tractors, outrigger models and counter-balanced models are included.

Circle 92 on Card Facing Page 71

Warehousing Plan

How a company achieves economical coast-to-coast distribution through an office-warehouse combination plan at North Pier Terminal is told in the September-October issue of "Find Out." "Find Out" is North Pier's bimonthly external house publication.

Circle 93 on Card Facing Page 71

Marking Machines

Jas. H. Matthews & Co. is offering a brochure, "General Purpose Marking Machines" illustrating equipment, from light-duty bench mounted units to heavy-duty, automatic machines for marking round, flat and contour-surfaced products.

Circle 94 on Card Facing Page 71

Facsimile-Label System

Addressing shipments by printing facsimile labels directly on cartons is the subject of Bulletin No. F-113, "Weber Facsimile-Label System" prepared by Weber Marking Systems, Div. of Weber Addressing Machine Co., Inc.

Circle 95 on Card Facing Page 71

Film Catalog

Fifty material handling educational and training films are available from members of The Material Handling Institute, Inc. The films are listed in the new MHI catalog. They cover all phases of material handling and are grouped according to 10 major categories: Batteries and Battery Care, Cranes, Fork Lift Trucks, Hand Lift Trucks, Truck Attachments, Material Handling In Specific Industries, Material Handling Fundamentals, Mechanical Handling of Specific Products, Safety, and Steel Strapping Applications.

Circle 96 on Card Facing Page 71

Fork Trucks

Construction details, operating characteristics and maintenance features of the new Clarklift fork trucks, are described in a 16-page brochure titled "Clarklift Features" now available from Clark Equipment Co.

Circle 97 on Card Facing Page 71

Routing Guide & Map

U. S. and state highways, mileage charts and useful travel information are shown in a four-color map prepared by Pacific Intermountain Express. It traces all PIE routes. Pictures of the company's latest fleet units, information on routes, tariffs, and services are also included.

Circle 98 on Card Facing Page 71

Volume-Van

A new brochure, "Fruehauf Smooth Panel, Hi-tensile Steel Volume-Van" has been issued by Fruehauf Trailer Co. It describes in detail the construction of this new unit, tells of its many advantages and how it will increase net profits for the operator.

Circle 99 on Card Facing Page 71

Loading Dock Shelters

Dazzo Products, Inc. has prepared a booklet describing its railroad dock shelters, truck model shelters, portable rain gutters, and dock shelter hoods. All specifications are included.

Circle 100 on Card Facing Page 71

Fire Hazards Chart

The Fyr-Fyter Co. has prepared a booklet containing the correct type of extinguisher or agent to be used in the event of fire.

Circle 101 on Card Facing Page 71

Reference Catalog

A new 52-page product catalog is available from The Mercury Mfg. Co. It includes complete specifications and illustrations of their current model fork lift trucks, platform lift trucks, load carrying trucks, and industrial tractors and trailers.

Circle 102 on Card Facing Page 71

Port Handbook

A 68-page handbook with complete, up-to-date information on the facilities and services of the Delaware River Port Area is being distributed by the Port Development Department of the Delaware River Port Authority.

Circle 103 on Card Facing Page 71

Protection Services

A complete brochure on Protection Services against fire, burglary, hold-up and other hazards has been prepared by American District Telegraph Co.

Circle 104 on Card Facing Page 71

Telescopic Conveyors

A 24-page booklet describing time-saving loading and unloading systems for trucks, trailers, box cars, handling cartons and bags, utilizing telescopic conveyors, flopper curves, and mobile docks has been prepared by Wilkie Co. It is illustrated with drawings, diagrams, and installation photos.

Circle 105 on Card Facing Page 71

For prompt service, use postage-free postcard provided to obtain FREE LITERATURE and NEW PRODUCT information described in this issue. All material is FREE unless otherwise noted.

Spray Sprinklers

A booklet entitled "When Fire Strikes," published by the Grinnell Co., Inc., tells of the protection offered by automatic sprinkler systems.

Circle 106 on Card Facing Page 71

Steel Dock Plates

Woodford Mfg. Co. has published Bulletin No. 502 on its line of Rollway portable steel dock plates giving illustrations, explanations and specifications.

Circle 107 on Card Facing Page 71

Industrial Tractor

Automatic Transportation Co. has prepared a bulletin giving complete specifications and drawings, including turning radii, on its new Automatic Model LTWE electric-driven industrial tractor.

Circle 108 on Card Facing Page 71

Books

The Traffic Manager

The traffic manager has been characterized as "the newest member of the management team" by John H. Frederick in his new book, *Traffic Department Organization*, which Chilton Co. will publish on Sept. 19.

Dr. Frederick, Professor of Transportation, University of Maryland, emphasizes that the traffic manager and his department have all too often in the past been viewed as overhead expenses which are necessary, but undesirable. However, this attitude is changing and the traffic manager has achieved new status in most forward-looking organizations.

Next to materials and labor, he says, "transportation generally looms as the largest single cost item, often taking 27¢ out of every sales dollar." These costs are controllable to a large degree and business has found that it can make a substantial profit from the traffic department.

Industries which have made successful use of the traffic department are cited as case histories by Dr.

Frederick to illustrate the smooth working between the traffic and other departments of a firm, central traffic control, individual plant responsibility, and unification of scattered activities when a company's operation is established at points throughout the country.

Such considerations as transportation cost control, definite assignment of responsibilities, the multiple forms of transportation, the importance of keeping management informed and the future of the traffic department are examined in detail.

Aware that the traffic department and its problems hadn't been explored thoroughly heretofore, especially in the light of increased costs, the greater complexity of the traffic department itself, and the new importance of the traffic manager, Dr. Frederick produced *Traffic Department Organization* as a guide to management and the traffic manager alike. 142 pp.; \$6. DISTRIBUTION AGE, Chestnut & 56th St., Philadelphia 39, Pa.



Walter S. Attridge
MCA Insurance Committee Adviser

Movers' Conference of America re-elects Russell E. Garrett chairman at its 1956 Movers' Annual Assembly, in Chicago. Program includes speakers and panel discussions on a variety of industry problems, including reciprocity, shipper relations, Section 22, government proprietary enterprises, insurance and safety, and commodity description. Speakers include Rep. J. C. Murray, Commissioner Laurence Walrath, Gen. E. C. R. Lasher

Movers' Conference Studies



C. J. Williams
President, American Trucking Assns.

PROBLEMS of reciprocity, shipper relations, Section 22, government proprietary enterprises, commodity description, safety, and insurance, took the forefront in discussions at the three-day 1956 annual assembly of the Movers' Conference of America at the Edgewater Beach Hotel in Chicago last month.

Reciprocity—or the lack of reciprocity—has become to the moving industry “a muddled, hydra-headed monster,” Russell E. Gar-

rett, Conference chairman, told the assembly.

He declared that if state governments cannot resolve the muddle “it would seem mandatory that the federal government take direct action on the premise that the state governments are not fully adequate for the continuing responsibilities which only the national government can undertake.”

The Advisory Board of the Conference decided to meet within the next four to six weeks, with the agenda confined to the reciprocity issue. Purpose of the meeting, said Conference General Manager James F. Rowan, would be to work out in clear, simple terms a positive program for application throughout the country at all levels.

State Legislation

C. J. Williams, president of American Trucking Associations, told the assembly “the emphasis has shifted from the various states to national circles and we’ve had to shift too.” Williams addressed the opening session.

Inept in the beginning in legislative circles even on the state

level, the trucking industry has learned fast. It has “a lot to learn yet in this new arena,” he said.

Employers in the trucking industry, he declared, are not willing to pay what their employees pay to unions to protect their welfare, although the employer has “so much more at stake.”

Williams said the new highway system would be a fine new tool to the industry. He said the railroads knew it and that was why they objected to the highway program.

In his report to the assembly, Garrett pointed out that under the federal-aid program states with large areas of federal land may be entitled to additional assistance, which, in effect, would provide as much as 95 per cent federal aid for their interstate system and 65 to 80 per cent aid for primary and secondary systems.

“The thought which immediately comes to mind,” he said “is whether there is left a valid argument for the imposition of taxes by one state on residents of another state, beyond payment of the fuel tax at the fuel pump, for interstate travel and commerce.”

The Assembly dug deeper into



Panel on Commodity Description included (l to r) E. Henry Lamkin, Lee Sloan, Paul Clarke, Thomas R. Kingsley, and John J. Rapp. Clarke served as moderator

Industry Problems

the reciprocity question during a panel under the chairmanship of George Batterson, Eastern Van Lines. Other participants were John Sloan Smith, Aero Mayflower Transit Co.; Bert Moore, United Moving & Storage Co.; L. R. Burnham, Burnham's Van Service; Otto Offenborn, Community & Johnson Corp., and L. A. Larimore, United Van Lines.

Commodity Description

Commodity description was discussed by a panel moderated by Paul Clarke, North American Van Lines. Other members of the panel were Lee Sloan, Sloan's Moving & Storage; E. Henry Lamkin, Aero Mayflower Transit Co.; John J. Rapp, Trans-American Van Service, and Thomas R. Kingsley, attorney and director of Research for the Movers' Conference, who substituted for Shelby B. Hood, Greyvan Lines.

Ed Byrnes, executive director, National Furniture Warehousemen's Association, spoke on "Trends in Palletization." Rep. James C. Murray (D., Ill.) reviewed the work of the 84th Congress.

Thomas R. Kingsley gave an extensive legal and legislative report. Robert E. Mapes, safety director of North American Van Lines and chairman of the Conference Safety Committee, spoke on safety and presented a film, "Professional Portrait." The presentation was prepared under the direction of Sub-Committee Chairman Henry Retzer, Bekins Van Lines.

Insurance Coverage

Carriers often forget the main purpose of insurance and spend their money unwisely, Walter S. Attridge, adviser to the Insurance Committee of the MCA and a consultant to the Insurance Committee of ATA, told the Annual Assembly.

Companies which require some types of insurance when the business was small no longer require those types of commercial insurance when the business grows, he said.

"Now, how do you decide what is economically insurable?" he asked.

"In general," he said, "it is buying insurance based on serious-

ness of loss in contrast to probability of loss."

The insurance business, said Attridge, is complex and, in order to determine the kinds of insurance and what is an equitable price for it, the operator needs the advice of someone well informed—a broker who understands a business well enough wisely to apply insurance to the operator's needs.

Road Patrols

Road supervision and the value and correct usage of Conference road patrol reports were subjects of a report by Francis L. Wyche. He pointed out that the Conference currently is supplying movers with 2100 reports each month, which are received from strategic locations throughout the country.

Vincent F. Caputo, staff director, Storage & Distributing Division, Office Assistant Secretary of Defense, reported on the progress of a uniform storage and warehousing contract and stated that the Defense Department's new program with respect to permanent storage-warehousing would be in effect by the end of the year.

The Shipper Relations Committee stressed the importance of high-level claims handling as the moving firm's "last opportunity to correct a service failure" and look forward to repeat business. The Conference's vital interest in shipper relations was handled by the panel which included Chairman Robert L. Hiner, American Red Ball Transit Co., Inc.; B. Leroy Burnham, Burnham's Van Service; Richard E. Huggins, Aero Mayflower Transit Co.; William LePage, National Van Lines, Inc.; Kenneth Maxfield, North American Van Lines, Inc., and William T. Santini, Santini Bros., Inc.

Another highlight of the meeting was a luncheon address by Commissioner Laurence K. Walrath, who said that the Commission shares with the movers their interest in Section 22 and joined in the hope that the matter will be renewed in the forthcoming session of the Congress.

Brig. General E. C. R. Lasher, (Please Turn to Page 95)

Definite Assignment of Traffic Responsibilities

Efficiently managing the traffic and transportation affairs of 66 widely scattered domestic plants and certain overseas units requires a high degree of organization and set line of authority

A HIGH degree of organization and a definite assignment of responsibilities are prime requisites in the management of traffic and transportation affairs for 66 widely scattered plants in this country, plus certain foreign operations.

This operation at Koppers involves the management of 1,000 owned and leased tank cars, several hundred trucks and other highway vehicles, two executive aircraft, and a staff of 43 persons.

The accompanying chart shows the chief positions in the Traffic Department. At Koppers, Traffic and Transportation is one of the eight staff departments coming directly under the company president.

Activities of the Traffic Department have grown in number and importance in recent years. The major responsibility remains, however, the transportation of goods and personnel to and from the firm's 66 plants, and from these plants to the customers.

Three types of functions mark the duties of the Department:

1. General staff functions, in which personnel aid in planning, procedures, controlling, advising policy formulation, coordinating, inspecting and assisting in divi-



By James F. Haley
*Manager
Traffic & Transportation Dept.
Koppers Company, Inc.*

as told to

John H. Frederick
DA Transportation Consultant

sional and central staff transportation problems;

2. Overall operating functions, in which personnel carry on rate negotiations with freight carriers, keep up an adequate car supply to move goods, transportation counseling, traffic litigation, study transportation legislation, and carry on various relations with traffic regulatory agencies;

3. Service functions, which include all types of services in-

volved in transporting the company's goods and personnel.

The prime job is determining the costs and routing of all orders which originate in the order and procurement departments on raw materials and finished products used and produced.

In routing raw materials or products the mode of transportation used is the one which gets them there, when required, at the lowest cost. Transportation of materials for plants and finished products for customers is carried on either by air, water or land, or a combination of the three.

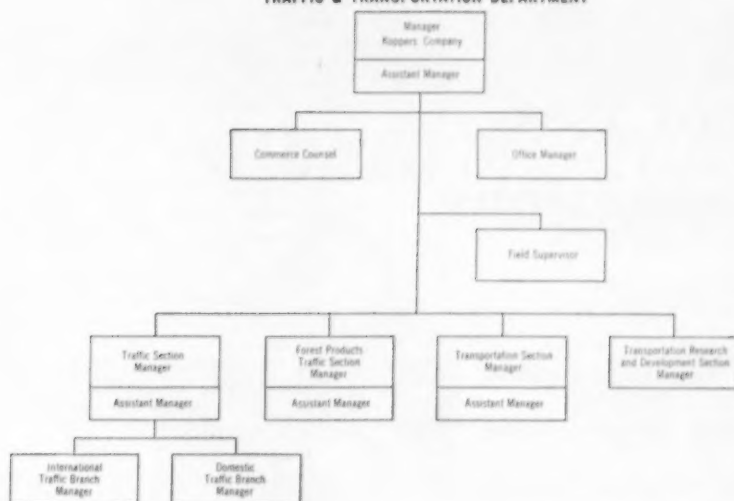
Personnel of the Department negotiate with railroad, water, and motor carrier companies for new rates or changes in existing rates. Constant checking service is maintained and protective action is taken whenever necessary in connection with changes and proposed changes in rates and classifications.

The Department also provides transportation counseling for plants and divisions to make certain that activities are kept within the law, and handles reservations, tickets, and other details of personnel travel.

We maintain a tariff file of over 10,000 current issues. While a

Editor's Note: This series of copyrighted articles is being excerpted from a forthcoming book by Dr. Frederick. The editors of DISTRIBUTION AGE gratefully acknowledge the privilege of exclusive prepublication magazine rights. (See page 71.)

TRAFFIC & TRANSPORTATION DEPARTMENT



Organizational chart of Traffic and Transportation Department of Koppers Co., Inc., illustrating the established line of authority and responsibility

complete file of all the motor and ocean tariff rates is not kept, because of space limitations and costs, we are prepared to cite rates and changes when requested. During a recent typical six month period 86,000 separate freight rates were quoted to operating and staff divisions.

Another function of the Department which has become increasingly important is its work in obtaining information for the operating divisions which bid on work to be done in various parts of the country. If a road is to be constructed in Ohio and the Tar Products Div. is to submit a bid on the project, the Traffic and Transportation Department determines where the job site is, computes the distance of the job site from plants which have the material available for such a job, and computes the cost of transporting the material to the job site. These figures are used in determining what bid will be submitted. In addition, T&T personnel compute the figures which competing companies may use in entering bids on the same project.

Furnishing tank cars for the various divisions, particularly the Tar Products and Chemical Divisions, is another job of the De-

partment. Some of the tank cars are owned by Koppers and some are leased from tank-car leasing companies. Some are on long-term leases and others on short-term leases.

Another important section of the Traffic and Transportation Department is the auditing group. Here rate men check thousands of freight bills paid in the field and at the plants by the divisions to see that rates charged are correct, and that there are no overpayments. Where overpayments are found, claims are filed for refund. During a recent six-month period overcharge, loss and damage claims against carriers totaled nearly a quarter of a million dollars.

Summary of Activities

Following is a brief summary of the activities of Koppers Traffic and Transportation Department:

The Department manager has the following duties and responsibilities, in addition to general supervision and advice to the president and other organization units:

1. To formulate, standardize, recommend and police company policies regarding the traffic movement of its materials, supplies, products and personnel;

2. To plan, recommend and inspect operating traffic and transportation procedures which will assure the most economical and effective movement of materials, products and people consistent with the necessity for speed and safety;

3. To remain familiar with the laws and regulations of governmental and other regulatory bodies, and to ensure that the company's traffic operations are conducted in accordance therewith;

4. To maintain amicable relationships with carriers, and to make recommendations to management as to the support of proposed legislative or other action of mutual benefit to carriers and company;

5. To secure interest in and promote the use of the company's products by carriers;

6. To carry out contacts and negotiations with carriers and carrier committees regarding rate and other agreements affecting cost and methods of company traffic;

7. To remain familiar with current action taken with respect to the negotiations of competitors, and with rates allowed on competitive materials, and to take such action as is necessary to protect the company against discriminatory practices and unfair competitive conditions;

8. To negotiate and draft and approve written contracts and agreements for the movement of company materials and personnel;

9. To initiate, process and defend claims;

10. To inspect traffic and transportation activities carried on by any other unit, and to make reports and recommendations regarding necessary improvements;

11. To represent the company in proceedings before transportation regulatory bodies;

12. To provide and generally supervise traffic and transportation services for the company's general offices and centrally headquartered operating divisions, such as rate quotations, transit accounts, audit of freight charges, routing, car supply and others;

13. To consult and cooperate with regional representatives to whom responsibility for regional traffic and transportation activities has been delegated.

Commerce Counsel

The commerce counsel performs the following duties and responsibilities:

1. To compile exhibits, testimony and briefs for use in presenting the company's position in proceedings before the ICC and other regulatory commissions;

2. To keep informed of activities, orders and regulations of Federal or

(Please Turn to Page 91)

81.5 Per Cent Pass AST&T Examinations

Of 222 candidates taking June examinations,
181 pass and 41 fail — lack of preparation
is cited as principal cause of most failures

RESULTS of the June examinations conducted by the American Society of Traffic and Transportation show that 81.5 per cent of the applicants completed their tests successfully, while 18.5 per cent failed.

Some 222 candidates reported for the examinations at 45 centers throughout the country. Of that number, 181 passed and 41 failed. In analyzing the results, the ASTT Committee noted that the greatest number of failures was among those candidates who registered for the examinations at the last minute.

Letters have been written to each of the candidates who failed, urging them to attempt the examinations again after additional study and other preparation. The next examinations are scheduled for January, with the exact dates and centers to be announced this fall.

There are four separate examinations given, including one on Transportation Economics or Business; another on The Principles

of Traffic Management; a third on General Business, and the last on Interstate Traffic and Transportation Law.

Candidates take one examination at a time, but must complete all four. No time limit has been set between the examinations, with some applicants waiting a year or more between tests. In addition to the four tests, each candidate must write a theme on a traffic and transportation topic of his choice.

Test No. 1 given at the June examinations is printed in full below. It is typical of all four.

Examination No. 1

Economics or Business

1. The purchasers of transportation usually have more alternative sources of supply to choose among than do purchasers of structural steel or fuel oil, for example.

a. Why is the supply of some (but not all) transportation subject to economic regulation, while steel and fuel oil are not?

b. What economic justification is there for exempting some for-hire

transportation carriers from regulation?

c. Which of the several principal types of common carriers now subject to economic regulation is *least* like a "public utility," and why?

2. The principal types of transportation are air, highway, pipeline, railroad, and water.

a. Explain how and to what extent these types are competitive with each other, and complementary to each other.

b. What are the principal reasons for the appearance and growth of freight forwarders and shippers' associations?

3. a. Explain how improved transportation affects geographic specialization, and location of particular economic activities.

b. State concisely how the following affect geographic specialization:

1) Grouping points over a large area for purposes of determining charges;

2) Intransit privileges;

3) Prescribed commodity rates which "relate competitive markets"; and

4) Tapered distance scales.

4. During the past decade there have been many cases involving the general level of rates.

a. Explain concisely the principal elements considered in establishing the general level of rates.

b. Distinguish the tests used by the Commission in the case of railroads and highway common carriers, and indicate which of these tests is more consistent with the public interest.

c. Assuming the need of a group of carriers for revenue, is it economically justified for them to file applications simultaneously for an increase in the general level of rates and for reductions in particular rates? Explain.

5. a. Explain what is meant by the rate structure in transportation charges, and state the principal elements which affect or alter the structure of rates. (Rely upon the type(s) of transport you know best.)

b. What economic and legal factors are considered in establishing rates and charges for particular transportation services?

c. State the conditions under which it may be said that one class of traffic burdens another class of traffic. In what respects, if any, have Federal and state policies encouraged one class of traffic burdening another?

6. Federal aid to commercial aviation began nearly 30 years ago and Federal economic regulation of commercial aviation began almost 20 years ago.

a. Should commercial air transportation now be considered mature, or is it still an infant industry? (Please Turn to Page 131)

Subject	Number Taking Exam.	Number Passing Exam.	Per Cent Passed	Number Failing Exam.	Per Cent Failed
Transportation Economics	63	48	76.2	15	23.8
Principles of Traffic Mgt.	96	81	84.4	15	15.6
General Business	90	42	46.7	48	53.3
Law & Regulation	73	10	13.7	63	86.3
TOTAL	222	181	81.5	41	18.5

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SMILING MANNEQUIN-A SALES-BOOSTING "PERSONALITY"-TOOK TO AIR VIA TWA AT KANSAS CITY FOR SCHEDULED APPEARANCES TO PROMOTE FROZEN-FOOD PRODUCTS. "COLONEL MORTON" FLEW IN STYLE. CLEVER IDEA. WON PUBLICITY. TWA SIMPLIFIED SHIPPING AND KEPT COSTS LOW. ASSURED MEETING ENGAGEMENTS ON TIME. PHONE TWA ANY TIME... SAVE TIME, MONEY.

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TRUE ENOUGH. SHIPMENT OF OVER A TON OF DISHES MANUFACTURED IN AN OHIO PLANT WERE RUSHED WITHOUT RISK OF DAMAGE VIA TWA AIR CARGO TO MEET A SPECIAL CATERING OCCASION IN MASSACHUSETTS. WHATEVER... WHEREVER YOU'RE SHIPPING, YOU CAN ALWAYS DEPEND ON DEPENDABLE TWA AIR CARGO TRANSPORTATION. QUICK. SAFE. ECONOMICAL. AND IT'S THE SMARTEST WAY TO SHIP. CALL NEAREST TWA OFFICE NOW.



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WHEN YOU WANT TO MAKE SURE YOUR COAST-TO-COAST SHIPMENTS MOVE ON SCHEDULE... CALL NEAREST TWA OFFICE AND ASK ABOUT **SUPER-G** "BOOKED AIRFREIGHT." CARGO CONSULTANT WILL EXPLAIN THIS EASY, QUICK, SURE SERVICE.



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LOOK into the amazing advantages of the White 3000 for the delivery of all types of products—in local or transport service.

You'll find new delivery savings . . . faster deliveries . . . new safety and driving ease . . . lower maintenance cost.

Every way you look at it, the White 3000 provides the truly modern way to deliver—adds a wonderful merchandising touch to deliveries.

Find out without delay how the White 3000 gets more work done . . . faster . . . and at lower cost . . . in *your* business.

THE WHITE MOTOR COMPANY CLEVELAND 1, OHIO

For More Than 50 Years The Greatest Name in Trucks



THE NIVISON-WEISKOPF CO. DELIVERS IN THE MIDWEST BY WHITE 3000

PIONEER manufacturer of corrugated boxes delivers from factory to customer with modern White 3000's. "The consistently low maintenance cost is a definite White advantage," Sidney E. Miller, president, says. "The steady performance and wonderful dependability help us provide our customers with the best service possible."

SAVE TIME IN CITY SERVICE

The White Model 3018 makes truck deliveries go faster in crowded city service. Extra capacity is possible without going to extra length. 145½-inch wheelbase, 552B transmission, 9.00 x 20 tires.

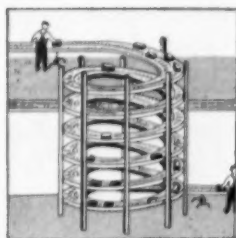
SAVE TIME IN TRANSPORT

The Nivison-Weiskopf Co. makes deliveries in the Midwest by tractor-trailer, getting extra load capacity for bulky product—corrugated boxes. Greater dependability and low-cost deliveries. Model 30187 White has 97½-inch wheelbase, 502B transmission, 9.00 x 20 tires.

Want an IDEA?

to help solve a handling problem? Rapistan ideas are different — and save you money, time, space and effort!

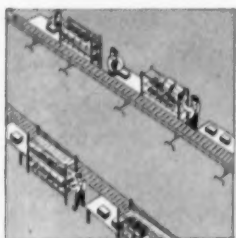
Time after time, Rapistan men have solved materials handling problems which seemed to have no solution. And they've been able to cut costs for many customers by detecting trouble spots, and suggesting a remedy. These are typical of the Rapistan ideas which have solved problems for all types of industries. . . .



A stack-up saved jam-ups

The problem was to provide in-process storage for quantities of a product released from baking ovens at one time, but processed at a regular rate.

The solution was a two-story spiral accumulator of wheel conveyor. The result is smooth production flow, and a saving of \$30,000 in construction cost.

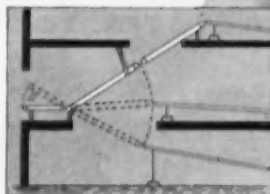


Go signal for stop & go assembly line

The problem was to provide a steady flow of work on a progressive assembly line with slightly different time requirements at each work station.

The solution was gravity wheel accumulators connecting work stations to provide a backlog of work-in-process.

The result is a smooth flow of assemblies without work stoppage, and the elimination of costly handling between stations.



Pinch-hitting conveyor saves space

The problem was to provide access to three floors from a receiving dock where space limitations made conventional equipment impractical.

The solution was a Floorveyor with a special bearing equipped pivot boot and a 1000 lb. electrical hoist.

The result is a power belt conveyor that can be raised or lowered to meet conveyor lines located in basement and on first and second floor.

Rapistan ideas come from the combined experience of more than 200 field men, who work with the most progressive engineering department in the business. Rapistan men face new problems every day . . . meet many which are new only to the customer. Similar problems, already solved by Rapistan for other customers, often make the solution simple and speedy. You owe it to yourself to call on Rapistan for materials handling ideas that can save you money, time and effort, too!

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There's a Rapistan man in your area . . . or write us direct about your problem.

BETTER CONVEYING EQUIPMENT

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- POWER CONVEYORS
- OVERHEAD CONVEYORS

*You can send this "Boy" to do
a Man-size Job any time...*

ALLIS-CHALMERS CHORE BOY Platform Truck

Two Sizes — 2,000 and
3,500-lb capacities
Pneumatic or Cushion Tires
Heavy-duty Air-cooled Engine
Hydraulic Brakes
Quick-change Clutch



CHORE BOY is an Allis-Chalmers trademark.

When it comes to intra-plant shuttle and delivery service, the Allis-Chalmers CHORE BOY truck does a real man-size job. Its low, wide deck is easy to load... with material of any kind. Further, the deck is free of obstructions both front and rear. This permits handling lumber, pipe or bar stock of almost any length.

The CHORE BOY truck really gets around in close quarters. Short turning radius enables it to go from one 67-in. aisle into another equally narrow without jockeying. On the straightaway, it travels up to 10 mph forward or backward. Dead-man control automatically sets a brake when operator leaves the seat — just one of many excellent safety features.

Ask your Allis-Chalmers material handling dealer to put a CHORE BOY truck through its paces for you or write for free literature.



MATERIAL HANDLING DEPARTMENT, BUDA DIVISION, MILWAUKEE 1, WISCONSIN

ALLIS-CHALMERS

See These Examples of
Allis-Chalmers Engineering in Action
... in action against handling and maintenance costs.

8H-27



Industrial Tractors



Platform Trucks

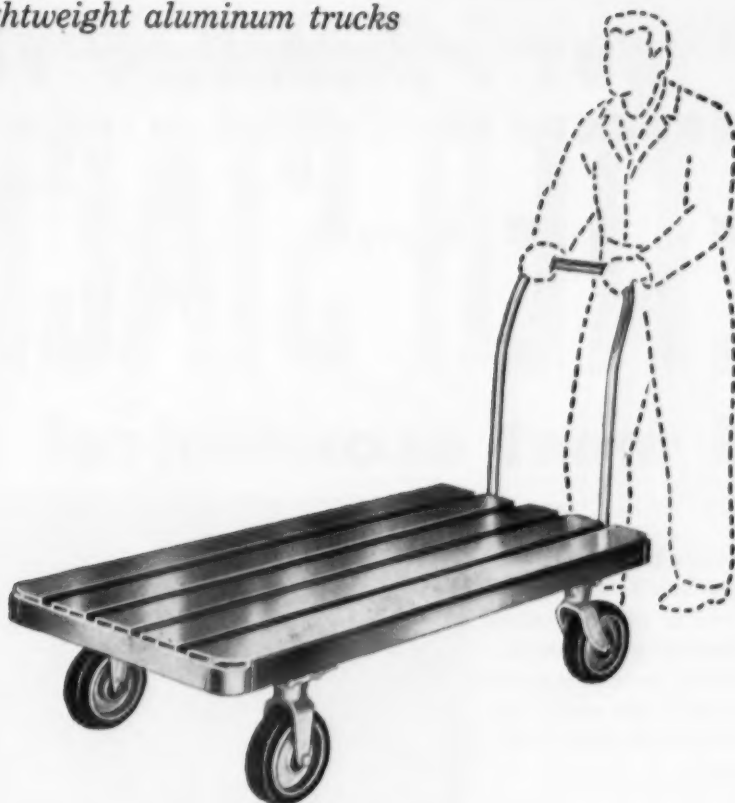


Fork Lift Trucks

Circle No. 16 on Card, Facing Page 71, for more information

DISTRIBUTION AGE

Magcoa/Tobey lightweight aluminum trucks



Cut truck costs . . . by cutting the cost of moving the truck!

It's a fact—the biggest savings are *not* in the price you pay for a truck. The real opportunity to save money is in the *cost of moving* the truck!

For example, if you pay \$100 for a truck and amortize it over ten years, it has cost you \$10 a year to buy that truck. If you buy it for half that price it has cost you \$5 a year.

Now ask yourself: How much does it cost to move that truck? Probably \$3000-\$4000 a year, based on \$1.50 per man-hour plus overhead. If you can save as little as 5% of that cost through increased efficiency, you will save \$200 per man, *per year*, every year! Magcoa/Tobey truck users are doing just that! It would pay you to buy the *most efficient* truck, not just the cheapest.

Magcoa/Tobey lightweight aluminum trucks are the easiest-to-push, most maneuverable trucks available. They eliminate cumbersome dead weight. The worker moving a light weight aluminum truck gets a quicker, easier start. He'll move and steer the Magcoa/Tobey truck with greater ease and safety. At his destination, he will stop the truck in less time and space and with less effort. He'll make more trips in less time too—with less fatigue.

It's a fact that Magcoa/Tobey trucks cut those truck costs which mean the greatest savings to you: the cost of *moving* the truck! Try one and see. Then provide your manpower with light, maneuverable Magcoa/Tobey aluminum trucks.

A new Data File shows the dozens of standard Magcoa/Tobey types and hundreds of sizes available. There is data, too, on special trucks for special problems. Use the coupon. No obligation.

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East Chicago 3, Indiana
Representatives in Principal Cities

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Company _____

Address _____

City-Zone-State _____

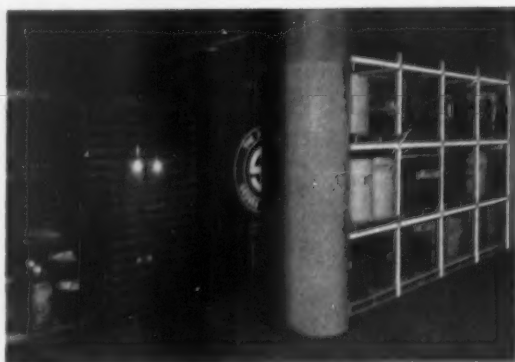
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BUY "American" FOR BETTER STACKING and most economical storage

Industry is buying more American Racks than ever before, because no other stationary or portable racks can match American Rack features. For cutting installation and materials handling costs, you can't beat American. Make us prove this fact! Write us today.



AN EXCLUSIVE
AMERICAN FEATURE
Patent No. 2,654,487



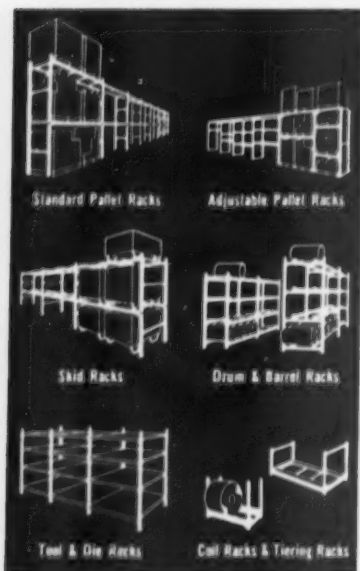
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DISTRIBUTION AGE

DA Materials Handling Primer—XIII

2. Elevating Systems

By D. O. HAYNES

DA Materials Handling Consultant

FREIGHT ELEVATORS

Freight elevators are machines for lifting and lowering loads vertically with intermittent, reciprocating motion. Essentially, they consist of a platform to support the load and either a rope hoisting or a hydraulic mechanism to actuate the burden-carrying element in a shaftway. The types discussed here are those employed industrially for handling freight or similar materials.

Mechanized handling, with its at-

tendant increase in the weights imposed on elevators erected in old multi-story buildings, presented a serious problem when new materials handling techniques were being adopted with astonishing rapidity. The elevator became known as the "bottleneck." Frequently it was the determining factor as to whether or not the new methods could be utilized under old, existing conditions. In most instances makeshifts had to be devised.

Elevator engineering is a highly technical science and cannot be adequately covered in a text such as this. However, the stresses and strains imposed upon elevators by powered equipment and heavy loads will be discussed briefly, and the various types of modern equipment available will be described. Where there is a question of elevator installation, the equipment makers should be consulted regarding details.

LOADING FORCES TO BE CONSIDERED

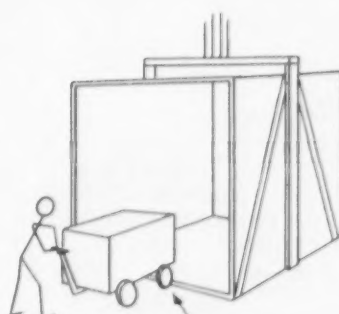
Fig. 1 and the following text are based on drawings and information in literature supplied by the Otis Elevator Co. The problems presented involve the changes due to the shift from handling loads on 500-lb hand trucks to those on 8000-lb powered trucks, with accompanying increase in the loads carried. The discussion best can be divided into three phases.

IMPACT LOADING

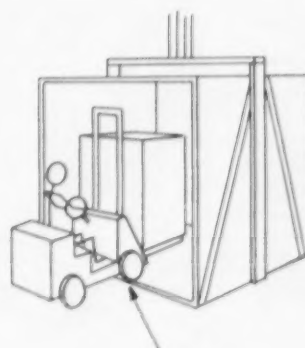
A wide variety of vertical and horizontal impact forces "punish" the elevator by tending to thrust, tilt, and twist the entire structure when a heavily loaded power truck is driven onto the platform, as shown in Fig. 1.

OFF-BALANCE LOADING

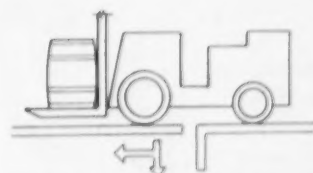
In a counterbalanced fork truck most of the weight of the truck itself and its load is concentrated on the front wheels. When these are driven from the floor onto the platform an off-balance impact is imposed on the car. This impact is transmitted to the elevator structure, then to the shaft rails and rail brackets, and finally to the building structure itself, as seen in Fig. 2. In most instances, after the load has been deposited and the truck backed off, the elevator has to support an off-balance load.



500lb



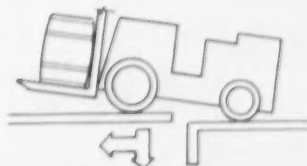
8000 lb



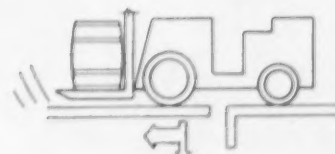
PLATFORM LEVEL WITH LANDING



PLATFORM BELOW LANDING



PLATFORM ABOVE LANDING



FAST BRAKING STOP

FIG. 1—(Left) HAND VS POWERED TRUCK LOADING
(Right) IMPACT LOADING

Elevating Systems—Freight Elevators, cont.

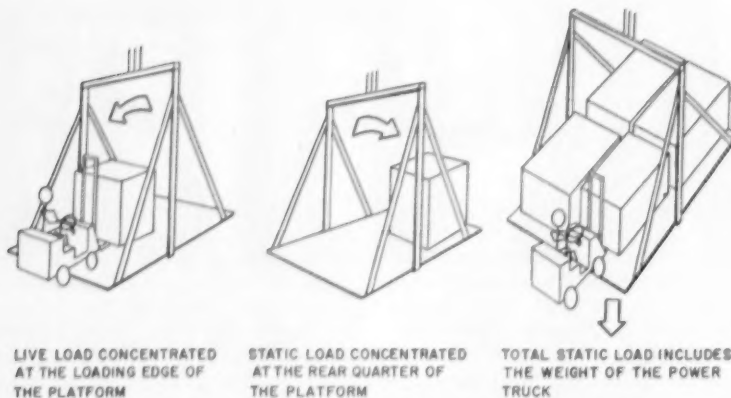


FIG. 2—(Left & Center) OFF-BALANCE LOADING
(Right) EXTRA STATIC LOADING

EXTRA STATIC WEIGHT

As a fork truck deposits its final pay-load the truck itself is on the elevator. This imposes an added static weight not imposed by hand-truck operations. This added weight may be 50 per cent more than the full payload. It must be supported by the elevator structure, ropes, and sheave shaft. Further, it has to be opposed by the elevator brake or corrected for by automatic, micro self-leveling.

It must be remembered that all the forces described above are at work, not singly, but simultaneously, in endless combination. An elevator must be designed especially to meet such service conditions.

TWO TYPES OF ROPE FREIGHT ELEVATORS

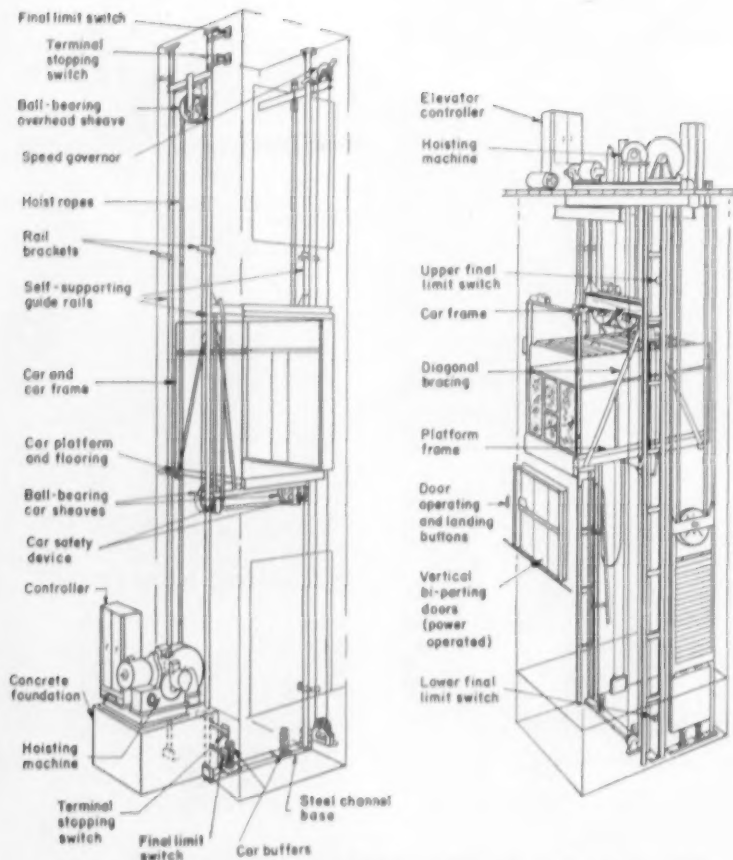


FIG. 3—TWO MODERN ROPE HOIST ELEVATORS

The first elevator shown in Fig. 3 is designed for light duty. It is available in capacities of 1500, 2000, and 2500 lb, with travel speeds of 25 fpm, and elevations up to 35 ft. These elevators are ruggedly built and are equipped with constant pressure push-button controls located at each landing and on the car. A speed governor safety device stops the car automatically if the descending speed becomes excessive. Limit switches are located at terminal points, and other safety precautions are provided. A feature is the location of the hoisting mechanism near the bottom of the hoistway. No overhead supports or penthouse are required.

The second type in Fig. 3 is designed especially for power truck service. It incorporates features to meet the various loading punishments described above. The controls are fully automatic and can be operated by either the truck operator or another employee. Overhead push-button controls suspended from the ceiling at some point along the line of traffic make this possible. An optional arrangement provides for attendant control where this is desired.

The following sizes and capacities are suggested by Otis Elevator Co. where this type of elevator is to be used for power-truck operations.

A FEW SUGGESTED ELEVATOR SIZES AND CAPACITIES

Capacity (pounds)	Platform		Clear Hoistway			Door Width Standard Height 8'-0"
	Width	Depth	Width	Depth (a)	Depth	
8,000	8'-4"	10'-0"	10'-4"	10'-8"	10'-11"	8'-0"
	8'-4"	12'-0"	10'-8"	10'-10"	12'-11"	8'-0"
10,000	8'-4"	12'-0"	10'-8"	10'-10"	12'-11"	8'-0"
	10'-4"	14'-0"	12'-8"	13'-0"	14'-11"	10'-3"
12,000	8'-4"	12'-0"	10'-8"	11'-8"	12'-11"	8'-0"
16,000	10'-4"	14'-0"	12'-0"	13'-10"	15'-3"	10'-0"
18,000	10'-4"	16'-0"	12'-1"	13'-11"	17'-3"	10'-0"
20,000	12'-0"	20'-0"	14'-11"	15'-8"	21'-3"	11'-8"

Width (c) allows for reinforcing structure for average hoistway conditions. Clear Hoistway Depth allows for installation of a reverse or rear opening in the car.

MATERIALS ELEVATORS

Materials elevators are not the types of elevators usually found in industrial buildings, warehouses, and similar locations. Their activity is in the construction field, where they are utilized to handle bricks, mortar, cement, and other building materials, frequently in wheelbarrows. They are illustrated in Fig. 4. They come in various constructions. Cheaper models have wooden cages; more expensive ones are combinations of wood and steel. They are offered in a variety of platform sizes. A popular

one can carry two wheelbarrows at a time. Elevating and lowering is done by powered winches. Wall and floor-mounted swivel sheaves are used where necessary to lead the cables to the hoisting mechanism. Since elevators of this type are used for temporary work, they are arranged so they can be set up and taken down quickly.

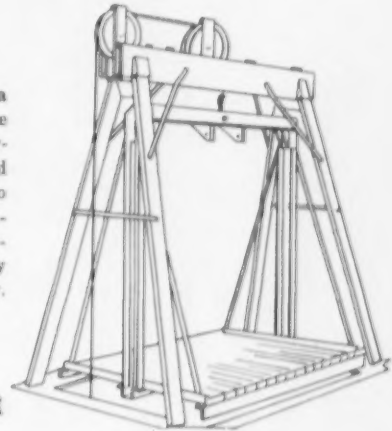


FIG. 4 (right)
A MATERIALS ELEVATOR

HYDRAULIC FREIGHT ELEVATORS

Hydraulic freight elevators utilize the same operating principle as that applied in hydraulic lifts—a fluid under pressure. A feature stressed by manufacturers of this equipment is that an elevator operating on this principle does not tend to move downward as heavily loaded trucks are rolled onto the platform. This results because it is firmly supported on a solid column of oil. Other points stressed are the absence of a penthouse, well lighted shaftways, smooth starts and stops, accuracy of landing stops ($\frac{1}{4}$ in. plus or minus), and low maintenance cost.

There are, however, limitations to the height of building which can be served by hydraulic elevators. Their operation is confined to two, three, and four stories. Their speeds also are somewhat slower than those possible with rope hoist types. Rotary Lift Co. recommends the following speeds:

For Single Story Travel (Average rise 14 ft)	
To 5000-lb cap	25 to 50 fpm up 40 to 70 fpm down
Over 5000-lb	20 to 40 fpm up 30 to 60 fpm down

For two, three, or four-story travel, greater speeds are possible. The up-

ward travel never should exceed one minute between terminal landings. For sidewalk elevators a speed of 30 fpm is recommended.

The type of elevator shown in Fig. 5 rises under power and descends by gravity. The range of hydraulic elevators is broad, from hand-truck capacities up to 60,000 lb.

Modern freight elevators have solved the problem of handling heavy loads on powered equipment. They now are well coordinated with the latest techniques in materials handling.

As we have seen, selection of the type for a given situation is largely a matter of the number of stories involved and the required capacity. Hydraulic elevators are intended for service in low buildings, where unusually heavy loads are handled and where speed is not a factor. Rope-actuated types are indicated where the building is a tall one and speedy service is required.

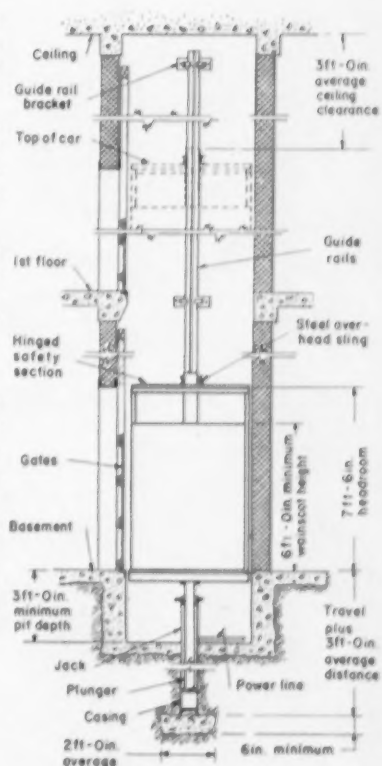


FIG. 5 (right)
MODERN HYDRAULIC
ELEVATOR

Within the



By Leo T. Parker Legal Consultant, Distribution Age

WAREHOUSING

Is an insurance company liable for fire damage originating from sources other than fire?

A warehouse official asked: "If a warehouseman holds a fire insurance policy is the insurance company liable for fire damage originating from sources other than fire?"

When deciding whether an insurance company is liable for a fire loss, the jury will consider all testimony and a verdict based upon actual testimony will be upheld by the higher court although the jury's verdict is based upon circumstantial testimony.

For instance, in *N— Ins. Co. v. A—*, 171 S. W. (2d) 215, it was shown that fire destroyed a warehouse building, and goods stored therein. The insurance company refused to pay the loss on the contention that the building was destroyed by an explosion which occurred in the warehouse building prior to the outbreak of the fire. In other words, the insurance company contended that the fire resulted from an explosion not covered by its fire insurance policy.

During the trial the night watchman, who was on duty at the warehouse, testified that he passed the warehouse building in making his regular rounds shortly before the fire and saw no evidence of a fire but some eight minutes later he heard an explosion and that he believed the explosion was caused by a fire. Similar testimony was given by another witness.

In view of this testimony the jury held the insurance company liable on its fire insurance policy. The higher court upheld the verdict saying:

"The verdict of the jury in the instant case is based upon circumstantial evidence. The witnesses in this case could only testify as to what they saw after they arrived at the scene of the fire and from this the jury had the task of determining

which occurred first, the fire or the explosion. The jury found that the fire preceded the explosion."

Is an insurance company liable for contracts made by its general agent?

According to a late higher court decision an insurance agent which calls at your warehouse to sell insurance is a special agent and from a legal standpoint, "your" agent and the insurance company is not responsible for his promises to you. On the other hand, if the general agent of the insurance company verifies coverage promised by the special agent, the insurance company is liable.

For example, in *P— v. M— Casualty Co.*, 37 N. W. (2d) 869, it was shown that a special agent of an insurance company solicited insurance from a warehouseman. At this time the warehouseman told the agent the protection he wanted. The special insurance agent had some doubts about such an insurance policy, and he made inquiries from the general agent for the insurance company who told him that the desired risks could be covered in one policy. When he delivered the policy, the special agent told the insured that he was protected.

Later the insurance company refused to pay the loss because no specific clause in the insurance policy stated that the warehouseman could recover for this particular loss. However, the higher court held the insurance company liable, saying that an insurance company is liable for contracts made by its general agent.

Other higher courts have consistently held that a special or ordinary agent of an insurance company is the legal representative of the warehouseman, not the insurance company.

Recently a warehouseman wrote to the effect that a warehouse building was destroyed by fire and the insurance company refused to pay the loss because no clause in the insurance policy states that this particular building was covered by the insurance

policy. This warehouseman said: "I contend that the insurance company is liable because at the time I signed the application for insurance I personally instructed the insurance agent that I wanted protection on all my buildings and he promised that I would receive an insurance policy which gave me this protection."

Nevertheless, the warehouseman lost the suit, because it is important and well settled law that an ordinary insurance agent is agent of the insured or warehouseman, not an agent of the insurance company. This is so although the insurance company pays the insurance agent a salary or commissions on premiums you pay the company. Hence, the insurance company is not at all liable for promises of protection made by the ordinary or "special" insurance agent. All warehousemen should remember this: Irrespective of what an ordinary or special insurance agent tells you and no matter what protection you believe your insurance policy affords, you must rely exclusively upon the protection explained and defined by the insurance policy.

Take time to read your insurance policies and do not rely upon promises made by your agent.

There are a variety of insurance policies which warehousemen may carry for protection on motor vehicles. These policies include collision, liability, property, indemnity, theft, etc. Also, insurance companies furnish policies for insurance against fire, tornado, hail, flood, unemployment compensation, workmen's compensation, medical, accident, liability, bomb, burglary, theft, etc. etc. Numerous warehousemen hold insurance policies which do not afford protection against losses believed to be specified in the policies. If a loss occurs the warehouseman cannot collect insurance. On the other hand, quite obviously if no loss arises the warehouseman may continue to pay insurance premiums many years without knowing or sus-

pecting that the policy does not afford the desired protection. Motto: Take time to read your insurance policies and do not rely upon promises made by your insurance agent.

See S— Corp. v. T— Indemnity Co. 30 S. E. (2d) 377. Here it was shown that an insured requested an insurance agent to issue a policy covering robbery insurance on the outside and on the inside, and also burglary insurance. The insurance agent went so far as to notify the insured by letter that the policy included the complete and desired coverage. However, when a loss resulted from burglary the insurance company refused payment, and the policy holder filed suit.

The higher court refused to hold the insurance company liable saying that when an insured receives a policy which does not conform to representations made by the company's agent he must notify the insurance company of the error within a reasonable time.

In other words, retention of the policy by the insured without objection is regarded by the higher courts as an acceptance of the policy with the protection limited by wording of the policy.

There are many reasons why an insurance policy may be void and have absolutely no value to protect a warehouseman against losses. A review of recent higher court law suits disclose that an insurance policy is void if the warehouseman secured the policy by erroneous, untruthful, fraudulent, deceitful statements made in the application, or, if the loss resulted from gross negligence or unlawful acts of the warehouseman or his employee, or if the warehouseman was performing or doing an unlawful act which was the proximate cause of the damage or loss.

It is quite obvious that many other situations may arise under which no adequate protection is provided the warehouseman by an insurance policy.

The higher courts have held, as follows:

An insurance policy was held void which prevented a warehouseman from collecting insurance on his motor van which burned, because in the policy the serial number of the van was inadvertently copied by the general agent's stenographer 834,482 instead of the correct serial number 834,483.

The higher court held that an insurance policy is void and that the insurance company need not pay indemnity to a pedestrian injured by a motor truck, where the testimony disclosed that the owner of the truck failed to at once notify the insurance company of occurrence of the accident. Hence the truck owner was held personally liable to the injured pedestrian for \$8,500 damages.

A fire insurance policy was held void where a warehouseman main-

tained a defective stove which set fire to the warehouse building.

A warehouseman was held liable to an insurance company which paid fire loss to the owner of a building which adjoined the warehouse building where the testimony showed that through the warehouseman's negligence in burning trash the fire was started.

The holder of a fire insurance policy on his residence was held not entitled to collect insurance on his home which burned because the testimony showed that the home owner occasionally used his garage to repair automobiles and the policy did not state that the premises would be used for business purposes.

A higher court held an insurance policy void because its holder falsely claimed a loss of 8,300 cartons when in fact only 6,300 cartons were in the building when it burned.

A warehouseman insured his motor truck. Later he bought a new truck and failed to notify the insurance company that he had sold the insured truck and bought a new one. The insurance company was held not liable on the policy for damages to the new truck by collision.

An insurance policy contained a clause that the driver of a motor truck would not leave it unlocked. The driver left the truck unlocked and a thief stole it. The higher court held the insurance company not liable for value of the stolen truck and merchandise therein.

The holder of an insurance policy sold his truck to his son but neglected

to notify the insurance company to this effect. Later the higher court held the insurance policy void when the son had a wreck.

A warehouseman insured merchandise stored in warehouse No. 2. Later the merchandise was moved to warehouse No. 3, without notification being sent to the insurance company. In subsequent litigation the higher court held the insurance company not liable for loss of the merchandise by fire while it was in No. 3.

An insurance policy incorrectly stated the exact location of an insured building. The higher court held the insurance company not liable for fire loss of the insured building.

A special insurance agent promised before witnesses that he would issue a policy to a warehouseman covering all his trucks, but through error on the part of the insurance company's stenographer the serial number and description of one truck was omitted from the policy. In subsequent litigation the higher court held the insurance company not liable and not required to defend the warehouseman against a \$50,000 damage suit filed by a person injured by operation of this truck.

A higher court held that whenever the normal risk assumed by an insurance company in a policy is increased in any manner, without permission of the insurance company, by the holder of the policy, the policy automatically becomes void.

The higher court held an insurance policy void where the testimony showed that it contained a clause stating that the insured truck would be used for hauling rock for R— Co. and the owner of the truck stopped hauling rock for R— Co. and started hauling rock for W— Co. without sending a notification to the insurance company and having the insurance company to issue a rider giving the owner of the truck permission to haul for W— Co.

A warehouse building was by mistake described in an insurance policy as being constructed from brick when in fact it was wooden construction. The higher court held the policy void and refused to hold the insurance company liable on fire loss of the building.

A fire insurance policy failed to state that an insured building was mortgaged. The higher court promptly held the policy void thereby relieving the insurance company from paying loss of the building and goods stored therein.

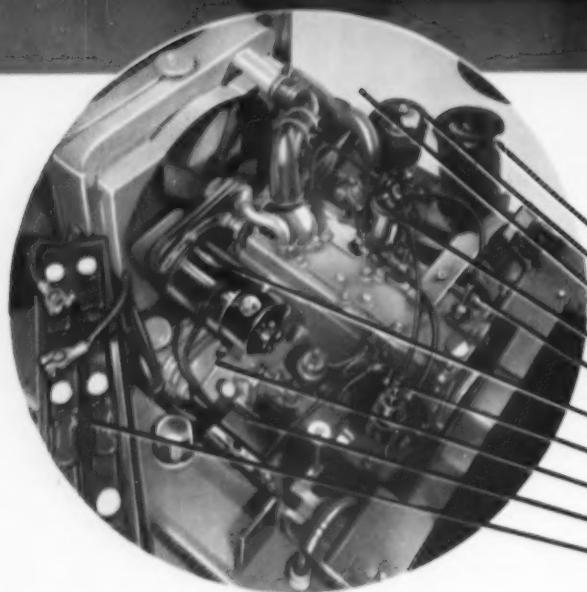
A warehouseman insured his warehouse business, buildings and equipment and later, without notifying the insurance company, sold part interest in the business, buildings and equipment to one W—. In subsequent litigation the higher court held that the insurance company need not pay a fire loss to either the warehouseman or W—.

Jet Air Age Aid



A system for transporting jet airline passengers from terminal to plane, parked at the end of the airport runway, has been proposed by Clark Equipment Co. The system, Clark claims, will eliminate the costly ground run of jet airliners from runway to terminal and the hazard of engine blast as the plane maneuvers to park. The system uses this passenger pod conveyance and a Clark-Ross straddle carrier. The passenger pod is simply a frame and shell with comfortable seats. Its interior resembles the interior of a plane, with air conditioning and good lighting

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accessible truck ever built

Once you've looked into the new Clarklift, you'll know that it's designed for much more than superior performance, driver efficiency and lower cost materials handling. After years of experience and painstaking effort, of throwing out good ideas for better ones, we think you'll agree . . . this new Clarklift is the most *accessible* truck ever built.

Here are some typical examples of the many time and labor saving features you get in this all-new Clarklift line.

• Self-adjusting brakes

Just forget the brakes. They're completely self-adjusting for wear. You stop turning drums and adjusting shoes. When the bonded lining wears out, pedal action is gradually lost. Only then do you service brakes by replacing linings.



Quickly demountable counterweight

One bolt holds the counterweight in place as it hangs on hooks built into the frame. Removal is simple. Another fork truck or a chain hoist can lift it off quickly.

• Adjustable rollers in upright

No more disassembly of the upright to shim or adjust for upright wear. Take up the wear by adjusting the rollers right on the upright . . . nothing to remove!

• Multiple electric plug

All wires leading to the ignition, horn, hydraulic controls, battery, generator and starter are combined into one multiple disconnect plug. Merely pull the plug and the entire electrical system is disconnected.

• Simple wheel removal

Remove 6 bolts and the wheel is off. No bearings to replace or repack. They are already sealed in the hub itself for long trouble-free life.

• Removable drive axle

The Clarklift drive axle combines all the advantages of a full-floating axle with greater accessibility. Remove 5 bolts, 4 studs and the complete axle assembly slips out for quick inspection.



Power Train exposed in 15 minutes

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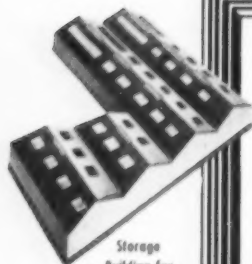
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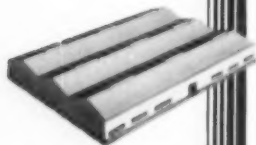
Storage Building for J. I. Case Co., Racine, Wisconsin



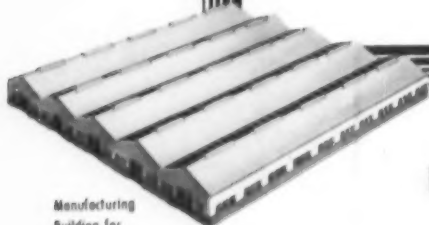
Warehouse and Loading Dock for J. I. Case Co., Bettendorf, Iowa



Manufacturing Building for J. I. Case Co., Anniston, Alabama



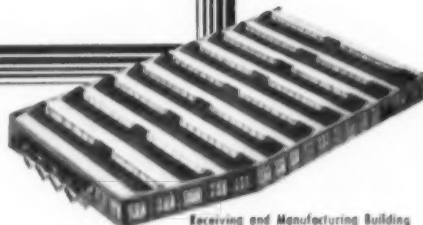
Branch Showrooms and Warehouse for J. I. Case Co., Houston, Texas



Manufacturing Building for J. I. Case Co., Stockton, California



Storage Building for J. I. Case Co., Racine, Wisconsin



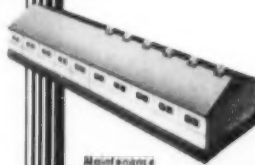
Receiving and Manufacturing Building for J. I. Case Co., Racine, Wisconsin



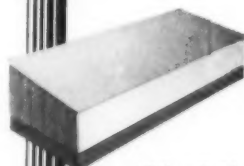
Tractor Development and Testing Building for J. I. Case Co., Racine, Wisconsin



Tool & Pattern Shop for J. I. Case Co., Anniston, Alabama



Maintenance Building for J. I. Case Co., Rockford, Illinois



Platform Shed for J. I. Case Co., Burlington, Iowa

LURIA Customers are REPEAT Customers

Circle No. 19 on Card, Facing Page 71, for more information

... Traffic Responsibilities

(Continued from Page 75)

other regulatory bodies, which may affect the company's traffic and transportation operations;

3. To ensure that all records required by law, or necessary to obtain the benefits and protection of laws and agreements, are properly and currently maintained;

4. To negotiate and draft written contracts and agreements for the movement of company materials and personnel which involve the acquisition or lease of transportation equipment, facilities or services;

5. To consult and cooperate with the Law Department and the Insurance and Real Estate Sections of the Finance Department on any aspects of traffic and transportation contracts or transactions.

Office Manager

The office manager is assigned the following duties and responsibilities:

1. To supervise the general clerical and stenographic force;

2. To maintain personnel records and see that necessary office equipment and supplies are secured through regular channels of procurement. To assist in preparation of the department program;

3. To arrange for or assist company personnel in moving household goods at lowest rates consistent with dependable service;

4. To arrange for the booking of steamer space on material and other details for export.

Traffic Supervisor

The supervisor of traffic carries out the following duties and responsibilities for the general offices and centrally headquartered operating divisions:

1. To ensure that the company's use of transportation is at the most economical rate attainable consistent with the requirements of the company's operations;

2. To continuously review the classification of the company's materials and products, and to actively pursue reclassification where such action will be to the company's advantage;

3. To obtain carrier approval of reduced rates covering specific commodities and movements for the purpose of enlarging areas from which raw materials may be drawn or where the company may market its products. To ensure that rates applied to company products are not discriminatory;

4. To bring to the attention of the operating divisions current actions in the field of traffic and transportation which affect costs, prices or policies;

5. To supervise the performance of service functions by subordinates, including work of the rate and analysis units.

Forest Products Supervisor

The supervisor of forest products traffic has the following duties and responsibilities in connection with the activities of the Company's Wood Preserving Division:

1. To ensure that the Division's use of transportation is at the most economical rate attainable;

2. To review rates and charges applicable to the Division's materials and products;

3. To obtain carrier approval of reduced rates covering specific movements for the purpose of enlarging areas from which raw materials may be drawn or where the Division may market its products;

4. To bring to the attention of the Division current actions in the field of traffic and transportation which affect costs, prices, or policies;

5. To supervise the performance of service functions by subordinates, including all work of the transit unit.

Transportation Supervisor

The supervisor of transportation handles the following duties and has the following responsibilities:

1. To study the transportation aspects of all phases of company operations and to formulate and recommend plans for company ownership and/or operation of transport equipment;

2. To investigate and evaluate the use of leased transport equipment as a substitute for company ownership;

3. To develop policies, specifications and procedures governing the purchase of transport equipment;

4. To develop, recommend and disseminate procedures covering the operation of transport equipment owned or leased by the company;

5. To develop, recommend and disseminate procedures governing the maintenance and service of transport equipment which will provide preventive care and prolong usable life;

6. To make contacts and carry out negotiations concerning the arrangements necessary to proper housing and service of transport equipment;

7. To cooperate with the supervisors of traffic and secure advice on laws and regulations applicable to use of company owned or leased transport equipment;

8. To assist operating division management in the negotiation of tank truck, water transport and similar arrangements;

9. To supervise the performance of service functions by subordinates.

One type of activity not yet centralized in one spot in many traffic departments is seen in the Koppers Company chart. This is the separate division devoted to transportation research and development.

Comment by Dr. Frederick

The Koppers Co. Traffic and Transportation Department is an outstanding example of the establishment of efficient lines of responsibility and authority. Too many traffic departments have neglected designating these so-called lines, a brief outline of which follow:

1. Fix responsibility for each activity;

2. Clearly define responsibility, authority and accountability for all activities;

3. Group together those activities which have a common purpose or which require close co-ordination. No major function should be assigned to more than one independent element of an organization;

4. Create lines of administrative authority which are definite and clearly understood. Each employee from the top to the bottom must know to whom he reports, and who reports to him. There should be no divided authority;

5. Maintain a distinction between line and staff, or between functional responsibility and authority. The line organization should be responsible for making decisions. The staff or functional organization should be responsible for developing plans, obtaining information, rendering advice, and performing follow-up to see whether work has been carried out in accordance with line decisions;

6. Limit the number of subordinates under any one individual.*

(Resume Reading on Page 76)



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Lake Erie . . .

(Continued from Page 47)

Conneaut-Fairport

The cities of Conneaut and Fairport-Painesville also look to the Seaway for a new lease on industrial life. Conneaut harbor is well protected with outer breakwalls, has a straight and wide channel dredged to 26 ft, and a turning basin with a maximum radius of 673 ft. Three major railroads serve the city, and a modern highway system is used by a large number of motor carrier firms.

Fairport - Painesville, located midway between Cleveland and Ashtabula, is said to be the finest natural port left on the lakes. A considerable amount of land is available for marine and industrial projects. On the west side of the port a 290-acre site with 3500 ft of river frontage is being held by the New York Central Railroad for resale to industry. On the east is a Diamond Alkali terminal for its huge nearby chemical plant. Ample docking and handling and hoisting facilities are available.

Council of Ports

The four ports of Northeast Ohio have joined with other Lake Erie ports to form a Council of Lake Erie Ports. The Council was formed, in connection with development of the Seaway, to assemble basic information on the waterfront and its facilities.

A draft of factors to be surveyed includes:

1. Basic economic data;
2. Freight rate information;
3. Port facilities, physical and financial;
4. Future economic surveys, statistical and commercial.

The Council has adopted a go-slow attitude in port development. Although urging all ports on the Lake to take full advantage of the new Seaway and other natural resources, a Council report points out that the glamour of the Seaway could create a "do something now" pressure that could result in unsound development. •

(Resume Reading on Page 48)

DISTRIBUTION AGE

Proper . . .

(Continued from Page 57)

should be used. The controller handle should not be thrown into top speed immediately.

10. The truck should not be driven in an unsafe condition. Any mechanical or electrical deficiency should be reported.

11. Care must be taken to prevent the loaded truck from passing over chips, oil, materials in process or other obstructions.

12. Aisles should be marked with contrasting stripes and kept clear.

13. Care should be taken to prevent bumping into objects.

14. During travel, any tracks encountered should be crossed on a diagonal and the operator should keep a firm grip on the steering control.

15. When approaching elevators, traveling near pits or down inclines, the truck speed always should be reduced.

16. When approaching or passing noisy machines, extra operator care is called for to avoid distraction.

17. The horn or warning signal with which the unit is equipped should be used only when required, but the operator should be certain that his warning was sensed.

18. The operator should travel with the load as close to the ground as possible to insure stability over rough roads and on turns.

19. When carrying loads at high-lift on telescopic fork truck models, it is necessary to watch the overhead obstructions.

20. When the truck loading is such as to obstruct the operator's view, the truck should be operated in reverse.

21. The operator should never attempt to drive a truck with wet or greasy hands.

22. No riders should ever be permitted on a unit.

23. The operator should take care to keep all parts of his body inside the confines of the truck and at the same time, should never attempt to maneuver too close to pedestrians or other trucks. •

(Resume Reading on Page 58)

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AMERICAN CHAIN OF WAREHOUSES



... Switchers

(Continued from Page 63)

addition of a tachometer, to indicate when to shift gears, mounted on a marine type remote panel group including engine temperature, fuel oil pressure and lube oil pressure gages and a generator ammeter. The torque converter panel was moved inside the cab to indicate fluid pressure and temperature to the operator.

Among the efficient features of this new installation was the inclusion of a 12 cfm air compressor, driven off the engine's timing gear train, to build up pressure in the air receivers for the locomotive's brakes. Other equipment installed with the engine includes: single cable remote control (connected with a solid rod); hood doors, hood and dash; flexible fuel lines; 6-volt, 20 amp charging generator; radiator and suction fan; electric start on the gasoline starting engine and vibration damper.

The torque converter unit is a

Twin Disc CF-10033-TC-IL unit with a C3 output shaft capable of taking a radial load. There also is a water-cooled fluid cooler connected with the radiator for cooling the torque converter. A fluid charging group keeps the torque converter charged with ordinary diesel fuel from the engine's fuel system.

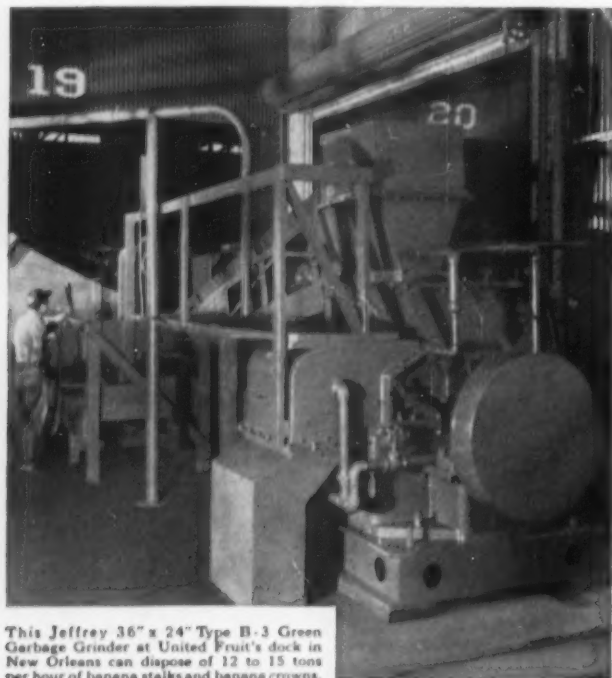
The operational costs of the new unit have been negligible. There have been no maintenance repairs. The fuel consumption, which is difficult to determine because of the irregular type of operation, runs about 11 gal of No. 2 furnace oil a day. The operator reports he fills the 55-gal tank mounted in the operator's cabin approximately every five days.

There also are new efficiencies in operation. With the positive clutch in the locomotive, it was hauling only two or three cars in order to ease clutch wear. Now the unit easily can handle four cars loaded with steel which approximates 50 tons each. *

(Resume Reading on Page 64)

Simplify disposal of your food wastes with a

JEFFREY Grinder



This Jeffrey 36" x 24" Type B-3 Green Garbage Grinder at United Fruit's dock in New Orleans can dispose of 12 to 15 tons per hour of banana stalks and banana crowns.

Waste piles up fast without a continuous means of disposal—messes up your warehouse and interferes with orderly handling and storage. A Jeffrey grinder keeps those wastes on the move, reducing them to fine sizes readily disposed of into the sewage system.

Jeffrey grinders are available in sizes to suit all food waste problems—large, like this United Fruit installation, and small sizes for restaurants and stores. Accessory equipment is also available from Jeffrey for gathering and handling wastes.

For help on disposing of your food wastes, get in touch with The Jeffrey Manufacturing Company, Columbus 16, Ohio.



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Movers' . . .

(Continued from Page 73)

executive director, Military Traffic Management Agency, warned that years of hard work represented by the joint Conference-Defense Department meetings for the solution of mutual problems "can be destroyed by just one inflammatory statement." He stressed the importance of the personal service provided by movers to members of the armed services, and of the effect on individual morale and productiveness.

He pointed out that deficiencies in service "are not infrequent" and, speaking with particular reference to recent authorization for non-temporary storage in commercial facilities, stated: "We expect you to perform this service better and more economically than we could do it for ourselves."

He asked that each mover individually examine and ask himself the effect which elimination of Section 22 would have on his business, his gross, and his net. He asked whether the individual carrier can compete for military traffic other than through Section 22.

Election of Officers

Mr. Garrett, who is field manager for John F. Ivory Storage Co., was elected to his fourth term as chairman of the Conference.

Virgil E. Freeman, North American Van Lines, Inc., was re-elected vice chairman; Harold J. Blaine, Lyon Van & Storage Co., secretary, and Lee J. Sloan, treasurer.

Members of the Advisory Board of the Conference elected for two-year terms to begin Jan. 1, 1957, are: Francis E. Buckley, T. G. Buckley Co.; Robert J. Burwell, Bekins Van Lines; John Gund United Van Lines; Robert L. Hiner, American Red Ball Transit Co.; Fred Kohlenberger, Kay Moving Service; Allan F. Schertzberg, National Van Lines; Edward Simard, Remy Moving Co.; Noble R. Steves, Shawmut Van Lines, and E. S. Wheaton, Wheaton Van Lines. •

(Resume Reading on Page 74)

How to diagnose and cure...

SWOLLEN INVENTORIES



SYMPTOMS: Bulging warehouses, overflowing receiving bins, low capital turnover.

CAUSE: Lack of modern distribution ties between supplier and buyer.

CURE: Try a fresh concept of air movement with just the necessary amount of surface transportation to be practical.

Air speed brings suppliers, buyers, and customers together . . . in days instead of weeks! Besides, SLICK rates are often lower than surface!

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Circle No. 22 on Card, Facing Page 71, for more information

Care and . . .

(Continued from Page 53)

warm water, and run water through the hose and nozzle. Heads should have four full threads in good condition and should be fitted only to the original extinguishers from which they came.

If the nose, head gasket, inner chamber or loose stopple are unserviceable, they should be replaced. Use only recharges furnished by the manufacturer. The two chemical recharges should be mixed in separate containers and be thoroughly dissolved before placed in inner and outer chambers. Follow the manufacturer's instructions and do not fill either chamber beyond the solution level mark.

Cartridge Water

Cartridge-operated water types must be protected from freezing temperatures. Examine the shell and seams for signs of mechanical damage, corrosion or distortion. If there is evidence of weakness, subject the extinguisher to a hydrostatic pressure test. Weigh the carbon dioxide pressure cartridge to detect loss by leakage. If the cartridge has lost one-half ounce or more, replace it with a unit of the same make.

Recharge immediately after use and inspect this type periodically to see that the water level is up to the proper mark. Clean the interior and parts with warm water and run water through hose and nozzle. Examine threads on the head, making sure there are at least four full threads in good condition, and return the head to same unit from which it came. Replace hose, gasket and cartridge if unserviceable and check the cartridge puncturing mechanism.

Cartridge Anti-Freeze

Cartridge-operated anti-freeze extinguisher inspection, maintenance and hydrostatic pressure tests are the same as for the cartridge-operated water type.

In recharging, the anti-freeze

solution chemical supplied by the manufacturer should be dissolved in water outside the extinguisher, and according to instructions on the recharge package. In filling the extinguisher, pour the solution through a fine strainer.

Pump Tank Water

At least once a year, examine the condition of the pump on pump tank water types. Also test the unit by pumping it several strokes. Return the solution to the tank and put a drop of thin lubricating oil on the piston rod packing.

If an anti-freeze solution is used, following the manufacturer's instructions, dissolve the solution outside of the extinguisher, and pour it through a fine strainer when filling.

Caron Dioxide

During periodic inspections, check the weight of carbon dioxide units. If the charge is 10 per cent below normal, recharge to the proper weight. If the unit is empty and shows no evidence of being discharged, check for:

1. Ruptured safety disc, due to excessive pressure from high ambient temperature (replace disc with one of correct size and material as specified by the manufacturer);

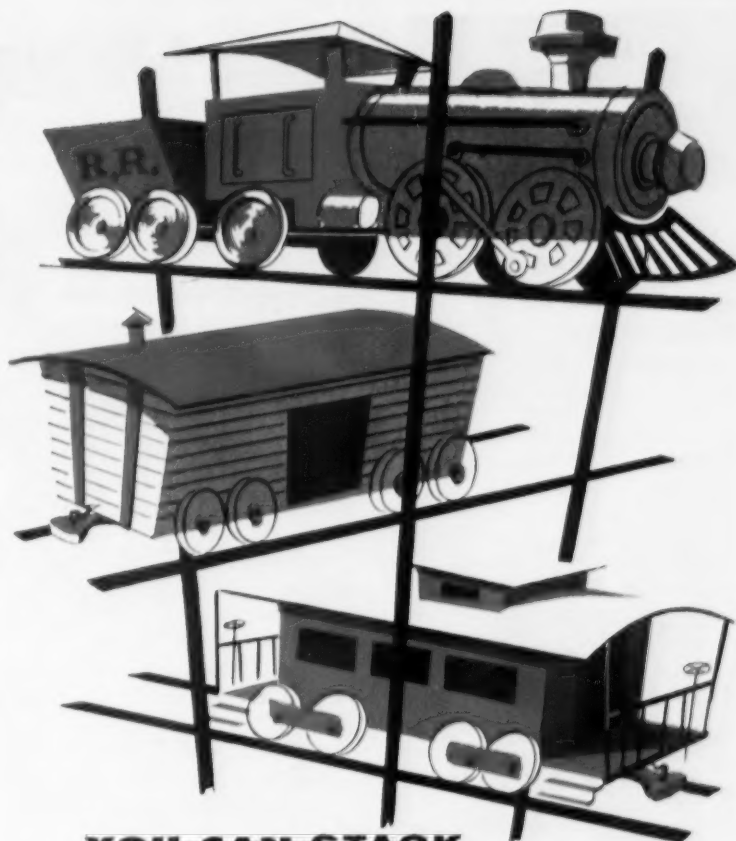
2. Leaks in packing (discharge the extinguisher, repair, recharge, and test for further leakage);

3. Deterioration of cylinder (subject unit to the special hydrostatic pressure test for carbon dioxide extinguishers described below).

If a carbon dioxide extinguisher has been in use for five years and is to be recharged, it should undergo hydrostatic pressure test, as follows:

Carbon dioxide extinguishers should have an internal hydrostatic pressure test in a water jacket to determine the expansion of the cylinder and should include visual internal and external examination. The pressure should be $5/3$ the service pressure of the cylinder, and applied for at least 30 seconds or as long as deemed necessary.

(Please Turn Page)



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Equipment Manufacturing storage racks that stack, cut time and handling costs, protect workers and stock, and speed inventory.

EMI racks are made of strong, welded tubular steel and are adjustable to fit any space or unit load. Special racks designed to your specifications. Field engineering service on any installation.

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Atlanta, Georgia

Care and Maintenance . . .

(Continued from Preceding Page)

Cylinders having a permanent expansion in excess of 10 per cent of the total expansion, and/or any of the following defects should be condemned:

1. Loss of metal thickness by localized pitting or large area corrosion, amounting to more than .005 in. for a cold drawn cylinder or 1/32 in. for a hot forged cylinder;

2. Loose scaly material on the outside of the cylinder, easily broken away by hammering or jolting;

3. Foreign deposits or inclusions on the outside cylinder wall or bottom. If the cylinder is usable, record the date of test under the original date of test on dome of the cylinder.

To discharge a cylinder before recharging, equip the outlet with a suitable device to prevent recoil. In recharging, be sure the cylin-

ders are dry internally and free of rust or foreign matter. In reassembling valve to cylinder, apply torque specified by the manufacturer.

The carbon dioxide supply, whether from a cylinder or a liquifier, should be in a liquid state and between zero and 88 deg F. Place an extinguisher on a scale during the recharging operation. Do not exceed the weight permanently marked on the extinguisher. After charging, place the unit under water for visual evidence of leakage, then dry it thoroughly.

Carbon dioxide extinguishers should not be located where temperature is over 130 deg F. If the temperature is higher, the extinguisher should be undercharged according to recommendations of its manufacturer.

Cartridge Dry Chemical

Cartridge-operated hand dry chemical types must be examined at least every six months to see that seal wires are in good condition, the orifice of the discharge nozzle isn't clogged, and there is no evidence of shell damage or distortion.

Examine them at least once a year to see that the weight of the carbon dioxide pressure cartridge meets the manufacturer's specifications, the passages for the carbon dioxide gas and the dry chemical are clear, the dry chemical is free-flowing and neither above nor below the prescribed weight, the nozzle and cartridge-operating devices are free operating, and the hose and sealing gaskets are undamaged.

In recharging, follow the manufacturer's instructions and use only recharges furnished by him. After use, release the pressure and inspect any dry chemical remaining in the shell. Refill the unit to rated capacity. Replace the charged cartridge according to manufacturer's instructions.

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Pressure Dry Chemical

Pressure-operated hand dry chemical types must be examined at least every six months to see that seal wires are in good condition, pressure meets prescribed limits, orifice of discharge nozzle is clear, there is no mechanical damage or distortion, and unit is full charge by weighing.

In recharging, follow manufacturer's instructions. After use, release pressure to clear the hose and relieve pressure. Use only dry chemical furnished by the manufacturer. Pressurize as specified by the manufacturer.

Wheeled Dry Chemical

Examine wheeled dry chemical types regularly to see that wire and lead seals are not broken, discharge nozzle is in closed position and unclogged, and the extinguisher and hose are undamaged.

Examine annually to see that the nitrogen pressurizing cylinder is properly charged, hose is clear of dry chemical, nozzle is unclogged and undamaged, hose coupling and nozzle connectors are tight, and the extinguisher and hose are free of damage or corrosion.

In recharging, use only dry chemical furnished by the manufacturer and follow his instructions. Release pressure in the extinguisher. Recharge nitrogen cylinder if pressure is below minimum and turn valves to the proper position. •

(Resume Reading on Page 54)



"We've been looking high and low for you."

SEPTEMBER, 1956

Houston Paper Company, Houston, Texas:

We chose **Sturdi-Bilt** Adjustable STORAGE RACKS *because they are*

**EASIER
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Only 3 Basic Parts



WITH EXCLUSIVE Float Wedge Construction



Instantly Interchangeable for



104 RACKS INSTALLED IN 30 MAN HOURS BY "GREEN" LABOR

Less than 1/2 of 1% of material cost!

The Houston Paper Company, Houston, Texas, was "sold" on Sturdi-Bilt Adjustable Storage Racks the moment they saw a demonstration of exclusive "Float Wedge Construction!"

No other rack could match Sturdi-Bilt's speed, low cost and ease of installation —

WITHOUT TOOLS, BOLTS, NUTS, ERECTION WELDING OR SPECIAL LABOR (installed cost of Sturdi-Bilt was actually 1/2 of 1% of cost of material compared to others 4% to 17%).

No other rack offered Sturdi-Bilt's flexibility — INSTANT RESPACING, REARRANGEMENT, EXPANSION OR RELOCATION AT ANY TIME — WITHOUT TOOLS — NO PARTS LOSS!

Looking to future expansion — Houston Paper Company considered Sturdi-Bilt's low cost for add-on storage facilities —

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Why Jim Davis Picked RED GIANT HAND LIFT TRUCKS



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REVOLVATOR CO.
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Deferred . . .

(Continued from Page 39)

involved in segregating, checking, billing and collecting for the preferred traffic would be too great to justify the service;

7. So much rail express traffic might be diverted to the new service that the Railway Express Agency might be unable to continue its air express service.

Deferred airfreight tariffs provide that such traffic is to be received only pursuant to written instructions from the shippers or the consignees directing that such shipments be moved as deferred airfreight; and that the shipper's copy of the airwaybill clearly show that the property would be transported on a space available basis and setting forth the earliest permissible time of release.

The CAB imposed a requirement that deferred freight tariffs prevent the carriers from imposing storage charges or reducing their liability to that of a ware-

houseman prior to 24 hours after notification to the consignee of arrival of the shipment or termination of the mandatory holding period, whichever was later.

It is, of course, too soon to determine any factual results of the experiment but it seems obvious that, even with rigid tariff compliance, there will be shipper and consignee pressure for a gradual reduction in the time of holding at destination, and for a continuing expansion of the deferred freight experiment, thus tending to break down the distinction between the two classes of airfreight service leading toward the eventual undermining of the entire rate structure.

The theory upon which the air carriers based their request for a deferred service is simple but, according to some, dangerous.

1. They argue that their aircraft would operate anyhow.
2. The added expense of taking more traffic would be comparatively little or non-existent.
3. If they can obtain some of



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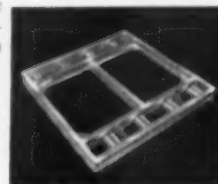
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Made of magnesium, Magliner pallet dollies are *light*, easily carried by one man, and get back to the loading point fast. They're strong, tough, rugged—of welded channel construction, for dependable, long-life service. Available in fourteen standard models and in 2,000 and 4,000 lb. capacities.



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Circle No. 28 on Card, Facing Page 71, for more information
DISTRIBUTION AGE

the traffic now going by ground carriers (chiefly rail express) at some margin over any added or out-of-pocket expense it will help them just that much.

Opponents of the plan claim that the danger of this theory is twofold. In the first place, the airlines have always had a very imperfect knowledge of what this added expense might be.

In the second place, they say, the theory places the chief burden of sustaining the profits and credit of the air carriers upon the traffic which under no circumstances would want to move on the deferred basis, or on the traffic which would be non-competitive with the ground carriers.

Such a burden is likely to increase progressively.

It must be realized that a dual rate scale cannot be confined to one type of carrier. At this moment, the competitive impact of the deferred airfreight service is greatest upon the Railway Express Agency. However, the airlines anticipate substantial econo-

mies from the use of jet aircraft. That day is but a few years off. When it comes, the lower airfreight rates thus made possible then will bring this same problem to the railroads, motor carriers and freight forwarders.

Many transportation people feel that from an overall commercial or rate standpoint there can be no justification for establishing such an inherently discriminatory practice as that typified by the present deferred airfreight services. The only excuse for it, they claim, is that certain carriers can thus increase their revenues. This can only be done at the risk of disrupting the established rate patterns and the commercial community built upon them.

Arguments are offered that from the point of view of regulation, the deferred airfreight service is impractical. Whenever an individual carrier can offer two levels of service depending upon availability of space, the way is wide open for discrimination.

It seems as if it would not be

long before all air freight would move in the differential service at the differential rates not only because, due to operational difficulties, the two services were occasionally comparable; but for the further reason that the shipper at regular rates could not long compete economically with a shipper who used the deferred rates.

The difference in cost, opponents point out, will compel all competitors to use the deferred rates with the result that much of the freight that now is moving in regular service at regular rates will be diverted to the new service.

The deferred airfreight service is based on availability of space. Looking at it realistically, it can be seen that the question often might arise as to whose freight was to be moved on a given day. Will it be the freight which first arrived at the airport, or will it be the freight of some shipper especially favored by the traffic solicitors? The whipsawing would favor first one, then the other.*

(Resume Reading on Page 40)

One man with a LINK-BELT Car Spotter can pull up to 6 loaded RR cars



You prevent tie-up of freight cars . . . save the cost and delay of bringing in a switch engine with a Link-Belt Car Spotter on the job. Two or three quick turns of rope around the motor-driven capstan lets your operator control up to 10,000 lbs. of pulling power. Cars are brought to loading and unloading locations faster—minimizing demurrage charges.

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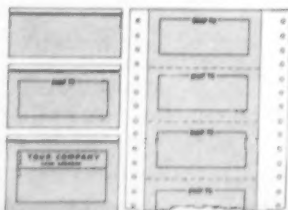
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Addressing direct to PAK-LABL printed on carton with blank STEN-C-LABLS.

Addressing with blank STEN-C-LABLS on printed gummed labels.



Addressing direct to carton with stock "Ship to" STEN-C-LABL.

Addressing direct to carton using die-impressed STEN-C-LABL.



See your business forms supplier or **WRITE TODAY** for **FREE** brochure showing detailed operation and actual installations. Dep't. DA-9.

STEN-C-LABL, INC.

2285 UNIVERSITY AVE.
ST. PAUL 14, MINNESOTA

From Tree to Market . . .

(Continued from Page 49)

expert eye and touch select and grade them with reference to size, quality and moisture content. As yet, no mechanical process has been found to equal the high standards of these graders.

To regain proper moisture, stabilize the fruit, and enhance its appearance, dates are held in pasteurization chambers for about four hours at 140 deg F and at 190 deg F for one-half hour.

The next step in the operation is an added inspection, which is carried out to maintain uniform quality. It consists of a final grading that takes place before the conveyors carry dates to the package-filling production line.

Packaging

High-speed wrapping machinery turns out 100 to 110 packages a minute. The fruit then is packed in lined shipping cases that have been designed for the purpose.

The Association has been conducting a series of experiments with various corrugated shipping cartons with the purpose of reducing the weight and cost. It states that there are four main types of cartons, with the A Flute, B Flute, C Flute, and D Flute predominating. It has been found that an A Flute construction is most satisfactory. It has cut over-all costs, reduced freight expense, and at the same time, it has improved the salability of the products and increased the efficiency of the operation.

Cardboards that are impregnated with compounds designed to slow down or stop moisture penetration are used. Sulphuric treated boards and other kinds have been employed successfully. Asphalt mediums and glues have been used, but sulphur-treated boards produce the best results.

Pre-cooled Shipments

The packed fruit is pre-cooled before it is shipped. This saves icing charges.

The Association's cold storage room is kept at an even temperature of 32 deg F, with a relative humidity of 65 to 70. Under these ideal storage conditions, the dates retain their proper moisture and flavor and keep almost indefinitely.

The boxes of dates are kept on pallets inside the refrigerators until moved by fork-lift trucks to the refrigerator cars and trucks. Temperatures en route are checked carefully. Precautions must be taken during transit to keep the dates at temperatures ranging from 35 to 45 deg F, with a relative humidity of 75 to 80.

The shipper also is instructed to keep all of his stock in cold storage or in a cool place until needed. As an important precaution, he is advised that dates must be handled with extreme care. If they are handled carefully and wisely, the dealer can realize his full profits. Mishandling subjects the fruit to bruising and spoilage.●

(Resume Reading on Page 50)

DISTRIBUTION AGE

... Missing Link

(Continued from Page 60)

storage or shipping. As soon as the loaded pallet is clear of the machine, an empty pallet moves into place under the stripper plate. Empty pallets are fed automatically from a pallet magazine, which is replenished at intervals by a fork truck operator.

Loaded pallets may be picked up by a fork-lift truck at the end of the short conveyor leading from the pallet loader, or they may be handled automatically. In a Philadelphia brewery discharged pallets travel by conveyor onto a vertical lift which takes them to another floor for storage. There they are automatically ejected from the lift onto powered accumulative conveyors on the storage floor, where they are picked up and stacked. •

(Resume Reading on Page 61)



"...one man took 12 minutes
make-ready time to move
this 10-ton screw machine!"



*Move any kind of
machinery or equipment
without skids, cable or
pipe. Nothing to wear
out. Top swivels 360°. Safe, sure.*

MIGHTY MOVER DOLLIES CUT MOVING COSTS UP TO 80%

Ends old fashioned, costly moving methods. Move and spot equipment exactly where you want it with your own employees in minutes instead of days—with savings up to 80% over regular moving methods. Mighty Mover Dollies pay for themselves in first moving job. Ask for literature, 8 minute film that shows how to cut moving costs, eliminate down-time, save hundreds of dollars. Wire or write:

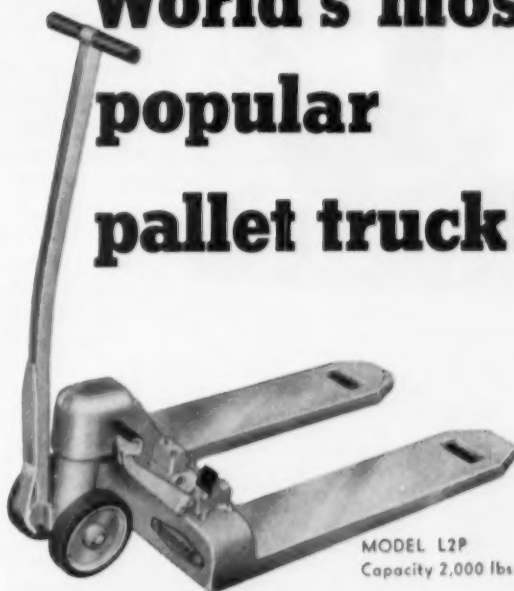
**MIGHTY
MOVER CO.**

1701 E. LOUISIANA • DENVER 10, COLORADO



Circle No. 31 on Card, Facing Page 74, for more information

World's most popular pallet truck!



MODEL L2P
Capacity 2,000 lbs.

RAYMOND

Lightweight

HYDRAULIC PALLET TRUCK

- INVEST IN THE BEST when buying a lift truck . . . get a Raymond Lightweight Hydraulic Pallet Truck. This superbly built truck is the world's most popular, has 2,000 lb. capacity.
- Aluminum alloys make it lightweight, easy to pull, yet plenty rugged. Frame is one-piece welded steel. Foot pedals lift and lower your loads. Has safe, dual-purpose brake plus patented booster roll to provide effortless pallet entry. Completely precision hydraulic for dependable operation. Years of use and abuse have proved it to be the best pallet truck money can buy.

MAIL
THIS
COUPON

The RAYMOND CORPORATION

13987 Madison St., Greene, N.Y.

Send latest Bulletin on Raymond Lightweight Hydraulic Pallet Truck.

☐ Check if you wish representative to call.

NAME _____ TITLE _____

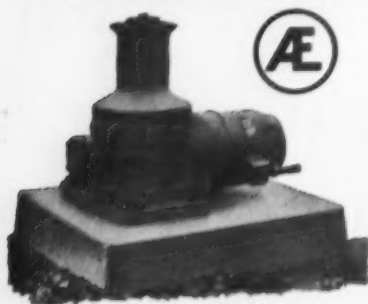
COMPANY _____

STREET _____

CITY _____ STATE _____

Circle No. 32 on Card, Facing Page 71, for more information

Circle 33 on Card Facing Page 71
**NOW! STOP WASTEFUL EXPENSE
 AT YOUR RAILROAD SIDING**



IF YOU actually saw a Lo-Hed Car Puller in operation you'd probably order one in a hurry. It is a first rate investment because a Lo-Hed Car Puller pays for itself fast. It puts a stop to shifting charges. Cars get loaded and unloaded in record time. Demurrage charges are slashed. Industrial accidents are minimized... And a Lo-Hed Car Puller saves money inside a plant, too—pulls loads in a straight line, up grades and around corners.

Lo-Hed Car Puller is rugged, electrically-driven. Write for folder telling you how to use Car Puller in your plant.

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 Bowden Industries Ltd., Toronto, Ont.



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Send for
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 LEXICON"
 and details of
 FULL SERVICE
 leasing.

write:

National TRUCK
 LEASING SYSTEM
 Members in principal cities

Dept. A-9, 23 E. Jackson Blvd., Chicago, Ill.



... Terminal Warehousing

(Continued from Page 51)

paperwork lag in the Marketing Division offices.

The orders supplied to the brokers are four-part, 8½ x 11-in. form sets devoted mainly to full descriptive listings of the entire line of Dole products. In making out an order, the broker's typist fills in a three-line heading which gives all the processing information needed, including "charge to" and "ship to" information, the broker's name, the date of the order, routing and shipping date.

The typist then enters quantities and prices on the lines designating the products to be ordered. The job of typing product descriptions, once the biggest part of order writing for the broker, has been eliminated.

After the typewritten order has been verified, the broker pulls two copies of the form for his own records and forwards the remaining two copies to San Jose.

The same form can be adapted so that it can be filled out in the field by the broker's salesmen.

When the broker's order is received in San Jose, it goes first to the Sales Department. There it is cleared and the warehouse which will ship the merchandise is designated.

Traffic Section

The order then goes to the Traffic Section. Master control numbers are assigned to the order and to corresponding shipping order forms. The first copy, with its corresponding blank shipping order, then can be released to the Order Section so that clerical processing can get under way.

The other copy of the broker's order, retained in the Traffic Section, is printed on card stock and punched to fit a ring binder. By slipping this form into the next vacant position in the ring binder controlling the affected warehouse, we automatically bring the stock picture for that location up to date.

In the right-hand position of each binder is a correspondingly printed form in which is listed current balance on hand of each item for each affected warehouse. In the left-hand position, also on a correspondingly printed form, is a stock increase card.

As the order forms fit into the binder they overlap each other, with the right hand columns, containing quantities ordered, falling side by side. This is accomplished by offsetting the forms one prong to the left as each is inserted in the binder.

This setup permits inclusion of up to 12 broker orders into a binder section.

The stock increase cards account for merchandise which is on shipboard enroute to the warehouse. These cards use multiple columns to list the goods by ship and date of arrival. Thus, in addition to stock-on-hand information, we also have an accurate backorder picture.

On each major order, we check its requirements against the status of stock enroute. Wherever possible, the orders are filled by loading directly from shipboard to outbound freight cars. This saves in-and-out warehousing costs, which now run 10¢ a case.

The forms provide control over an occasional but major problem which arises when a customer reserves a block of canned goods. This merchandise is not sold, but is held for him pending a possible order. In this case, we make up a regular order form, decrease the balance card accordingly, and place the card at the left of the binder with a stock increase card made out for corresponding quantities.

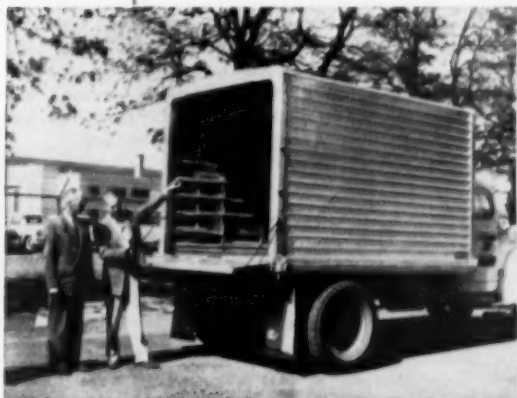
When the order materializes, the stock increase card is destroyed and the order is allowed to stand. If the order doesn't come through, however, the stock increase card serves to put the goods back into working inventory. •

(Resume Reading on Page 52)

Meet the "Champ"...

WORLD'S FIRST

Aluminum Truck Body



25 YEARS YOUNG

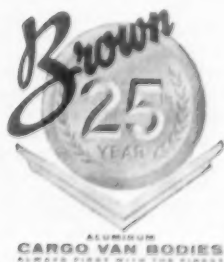
Still in Daily Service

Unretouched photograph above shows the World's First Aluminum Truck Body built by Brown Trailers in 1931. William R. and T. C. Brown, Executive Vice President and President, are shown checking features they built into this truck body 25 years ago. In daily service handling supplies for Spokane, Washington city schools—it is still going strong!



and TODAY'S FINEST *Built by Brown*

Custom-designed, and mass-produced parts make BROWN ALUMINUM BODIES adaptable to a wide range of special uses. With fully equipped independent sales, service, and manufacturing organizations ready to build to your requirements, Brown Aluminum Body Builders offer you the advantages of factory quality and mass-production-pricing right in your own community. Whether your need is one unit or an entire fleet, standardize on BROWN ALUMINUM BODIES—they last! Modernize . . . Economize—Buy Brown. For complete information call the Brown dealer near you, or write BROWN TRAILERS, INC., DEPT. A, SPOKANE 10, WASHINGTON, for illustrated folder CV-156.



Sales and Service Coast-to-Coast

ECONOMIZE . . . MODERNIZE . . . STANDARDIZE

BROWN TRAILERS, INC.

Chicago, Ill. . . . **SPOKANE** . . . Reading, Pa.
Washington

Warehouse SPOTLIGHT

Warehouse Briefs

Rock Island Transfer & Storage Co., Rock Island, Ill., has been accepted for membership in **The Associated Warehouses, Inc.**

Ward Warehousing Corp. is constructing a new brick, concrete, and steel in-transit warehouse in Altoona, Pa. The warehouse, which adjoins the PRR mainline, will be 502 ft long and 208 ft deep.

New members of **Affiliated Warehouse Cos.** are: **Hudson Warehouses**, Cairo, Ill.; **The Lima Truck & Storage Co.**, Columbus, O.; **Kenny Warehouse, Inc.**, Pittsburgh, Pa.; **Wilson Storage & Transfer Co.**, Sioux Falls, S.D.; **Ross Transfer Co.**, Spokane, Wash.

Human Relations



J. Leo Cooke, president of **J. Leo Cooke Warehouse Corp.**, Jersey City, N. J., shown using the **Warehouse Directory** issue of **DISTRIBUTION AGE** explaining physical distribution in this country to a group of visiting Indonesians. Cooke was invited by the **Human Relations Institute of America** to address the Indonesians, who are in this country under a grant arrangement to study our economic and business structure. He lectured the **Indonesian Productivity Team** on public and private warehousing, materials handling, transportation, and other phases of physical distribution

Leonard Brothers Transfer Co. has opened a new building in Orlando, Fla. The building will be used for maintenance and repair of over-the-road equipment.

D. H. Overmyer Warehouse Sales Co. has announced new memberships of: **Burch Warehouse Co.**, Pueblo, Colo.; **Erie Warehouse Co.**, Erie, Pa. and **Crown Bonded Warehouse Co.**, Fort Worth, Tex.

Seaway Wholesale Grocery Co. has begun construction on a new 170,000-sq ft warehouse in Cleveland, O.

Bender Warehouse Co., Reno, Nev., has announced construction of a new 60,000-sq ft warehouse in that city. The warehouse will be of tilt-up type construction, have a 10-car siding on the Western Pacific, and indoor truck loading docks.

New **Aero Mayflower Transit Co.** agencies are: **Wunderlich Moving & Storage Co.**, Blytheville, Ark.; **H & M Storage & Transfer Co.**, Helena, Ark.; **James Transfer & Storage Co.**, San Jose, Calif.; **Davis Van & Storage**, Liberal, Kan.; **Johnson Transfer & Storage Co.**, Hammond, Ind.

At the recent 28th Annual Stockholders Meeting, **Louis Schramm, Jr.**, president of **Allied Van Lines**, reported that **Allied's** 700 agents set a new record during the first six months of 1956 by hauling 195,677,000 lb of household effects in interstate traffic.

The Frank Hamilton Warehouses, Inc. have moved into a new building at 2101 Ross Ave., Cincinnati, O. The new one-floor building has 169,000 sq ft of floor space, up to 25-ft ceiling heights, unlimited floor load, and an eight-car siding on the B & O.

The Sandhills Bonded Warehouse, Inc., Southern Pines, N.C., will open for business on Sept. 15. The building will accept general merchandise and cotton, including explosives and perishables. Sprinklered and fire-resistant, it has a private siding on the Seaboard.

Men in the Spotlight

Ralph B. Hesselbaum—appointed manager, **F. P. Peters Moving & Storage, Inc.**, Aurora, Ill.

William L. Snelts—named vice president-sales, **North American Van Lines, Inc.**, Fort Wayne, Ind.

Chester Kennedy—promoted to manager of the new district sales office of **Aero Mayflower Transit Co.**, in Detroit, Mich.

L. L. Baker—named general superintendent of sales and services, **National Ice and Cold Storage Co.** of California.

Major Robert C. Taylor—Federal Cold Storage Co., St. Louis, Mo., retired recently.

William B. Packer—elected vice president, **Tank Terminal Div.**, **Delaware River Terminal & Warehouse Co.**, Philadelphia, Pa.

Richard Kaiser—elected vice president, **Smith's Transfer & Storage Co., Inc.**, Washington, D. C.

Robert F. Burnett—named Northern California sales manager, **Bekins Van and Storage Co.**, with offices in San Francisco.

Philip L. Gore—promoted to vice president, **Security Storage Co.**, Washington, D. C.

James L. Evans—elected president and treasurer, and **James H. Evans, 2nd**—elected vice president and secretary, **J. H. Evans & Sons, Inc.**, White Plains, N. Y., and **Evans-Mt. Pleasant Van & Storage, Inc.**, Pleasantville, N. Y.

Driver of the Year



Lewis E. Cook, Waterloo, Ia., moving van driver, won the title of the "1956 Driver of the Year" in the recent annual contest for truck drivers sponsored by the **American Trucking Associations**. Cook, who has driven more than 700,000 miles without a single accident, was credited with saving the life of a man who suffered a broken neck in a highway accident. He drives for **North American Van Lines**, Ft. Wayne, Ind., and its agent, **Reed's Transfer & Storage Co.**, of Waterloo, Ia.

BIRMINGHAM, ALA.

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- Fully-bonded Warehouse
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Atlanta 13 • Lamar 3421CHICAGO: 519 West Roosevelt Road, Chicago 7 • Canal 6-5742
MEMBER AWA • NWS**BIRMINGHAM, ALA.****STRICKLAND TRANSFER & WAREHOUSE CO.**

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General Merchandise Storage and Distribution

Pool Car Service a Specialty—Motor Truck Service

Centrally Located—Free Switching from All R.R.s

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POOL CAR DISTRIBUTIONSERVING
S.E. Alabama
S.W. Georgia
N.W. FloridaReceiving—STORAGE—Handling.
Motor Freight Service to all points.
6-car Private Siding. Reopen Switching.
Efficient—Conscientious Branch House Service.**PHOENIX, ARIZ.**

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“PERSONALIZED SERVICE”

DISTRIBUTION • STORAGE • DRAYAGE

SANTA FE & SO. PAC. SIDINGS

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facing Page 71 to check your selections

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- 20 Car Capacity

Consign shipments via S.F. — S.P.

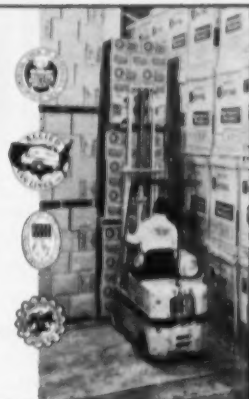
• Storage and Nationwide moving of household goods.

Represented by

American Chain of Warehouses

Allied Distribution

Member American Warehousemen's Association

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Telephone 2-3331

TUCSON WAREHOUSE & TRANSFER CO.

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fleet of trucks from 1-60 Tons for distribution in Tucson and
vicinity. Crane and Winch service for heavy lifts.**LITTLE ROCK, ARK.**Represented by Allied Distribution, Inc.
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FIREPROOF-CONSTRUCTED

Pool Car Distribution—Agent, Allied Van Lines

TERMINAL WAREHOUSE CO.Member American Warehousemen's Association
American Chain of Warehouses

LITTLE ROCK

ARKANSAS

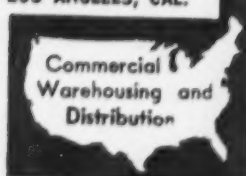
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On San Francisco Bay

**COMPLETE WESTERN
DISTRIBUTION**General Merchandise Storage • Pool Car Distribu-
tion • Storage-in-Transit • Trucking, Car Loading
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Bulk Storage Facilities • Industrial Sites**ENCINAL TERMINALS & WAREHOUSES**

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10 Car Siding on A.T.&S.F. Railway
Sprinklered—A.D.T. Protected

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REPUBLIC VAN & STORAGE CO., INC.

**WAREHOUSING—DISTRIBUTING—
CARTAGE**

147,000 sq. ft. in downtown L. A., 9 car switch covered dock—
small blocks of space for lease.

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Largest and most complete storage and trucking service
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★ Pool car distribution—

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★ Operate a statewide, daily motor freight
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SERVICE**



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in the Rocky Mtn. Empire

Deliver what they want...WHEN THEY WANT IT...
by warehousing at NORTH DENVER!

Over 1,200,000 pounds of merchandise in all directions from Denver both in this day for their daily needs. Mr. Sales Manager. They also point up the need to warehouse stock at NORTH DENVER. Ask your Traffic Manager...he knows NORTH DENVER often over half a century of warehousing experience. And, while we've stored merchandise for others, we've gained our own store of valuable knowledge. It's yours for the asking. So, why not write us?

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General Office and Warehouse
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Modern Sprinklered Fireproof Building—Freight
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- Household and Merchandise Facilities
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100,000 sq. ft. warehousing space; 8-car private siding; complete ADT fire, burglary protection; 100% sprinklered warehouse. Telephone H.F. 287 or write...

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COMPANY
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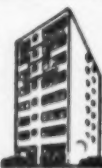
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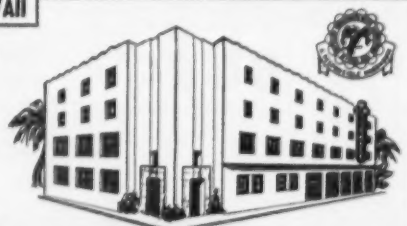
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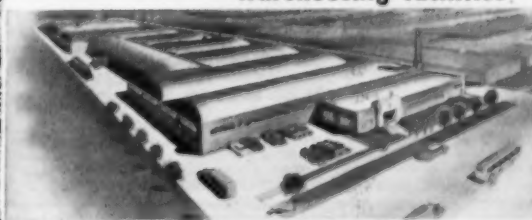
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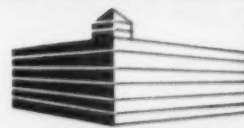
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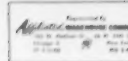
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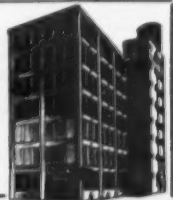


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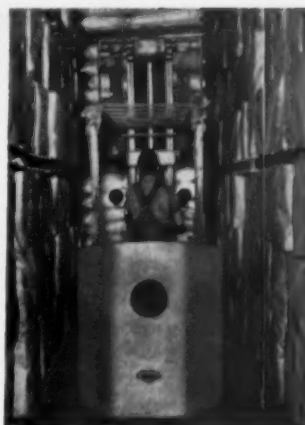
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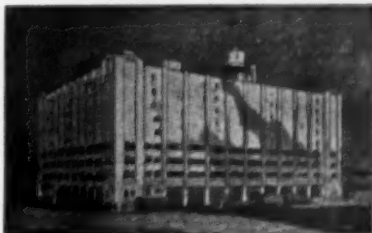
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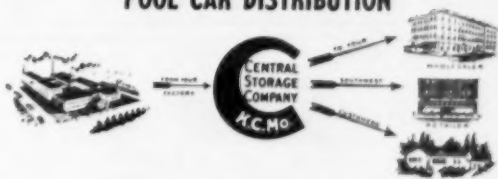


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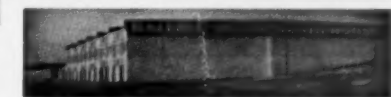
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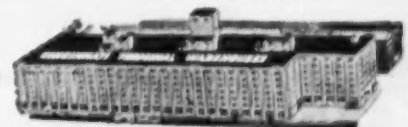
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(Continued from Page 33)

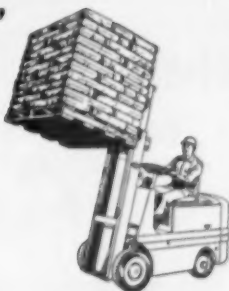
government claims of alleged overcharges by the railroads from 1941 through 1946. The government ends its 17 complaints that the rail lines made excessive billings for hauling government goods. Total amount involved is variously estimated at from less than \$500 million to \$2 billion. ICC dismissed the complaints in 1955.

For additional Washington items, see
Chuting the News, Page 13

(Resume Reading on Page 39)

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... AST&T Examinations

(Continued from Page 76)

try? Give reasons for your answer, indicating briefly which elements of aid and regulation should be reduced, remain the same, or increased in the near future.

b. Explain briefly what appear to be the inherent advantages of air passenger freight (including express), and mail services.

c. Comment briefly upon one of the following current problems in air transportation:

1) The level of air passenger fares;

2) The level of service mail rates;

3) Competition between large and small air carriers.

7. In recent years, there has been considerable controversy concerning the umbrella principle in rate making on one hand and competitive rate making on the other.

a. Explain briefly the meaning of both of these terms.

b. Which of these bases for rate making will tend to result in the least economic discrimination; most efficient use of transportation facilities. Explain briefly in both cases.

c. How do the level and behavior of carrier costs contribute to this

controversy? (E.g., between rail and highway or rail and water carriers.)

8. a. Distinguish among coordination, pooling, and consolidation, indi-

First Aluminum Body



Wm. R. and T. C. Brown, Brown Trailers, Inc., Spokane, Wash., are shown reminiscing about what is claimed to be the World's first aluminum truck body. Brown Trailers designed and built the unit for Spokane City Schools in 1931. Still going strong after 25 years' service and outlasting several chassis, it is used daily handling supplies to all schools in Spokane School District 81.

cating the economic objectives in each case.

b. Is there reason to believe that consolidation of unlike types of transportation may be less significant in the future as a means for achieving coordination? Explain why or why not.

c. What recent developments within and between the highway and railroad industries mitigate the need for through routes and joint rates among these unlike types of transportation?

9. a. Recently there have been a significant number of applications for consolidation of highway freight carriers. Under what circumstances is the consolidation of highway freight carriers in the public interest? Are the circumstances the same in case of consolidation of other like types of transportation? Explain.

b. Under what circumstances should consolidation of unlike types of common carriers be permitted? Are present statutory provisions and regulatory policies consistent with your previous judgments?

10. In determining the lawfulness of proposed particular rates and charges, and in rate level and structure cases, regulatory authorities sometimes appear to establish rate differentials to compensate for service disadvantages or to offset services advantages.

(Please Turn to Page 137)

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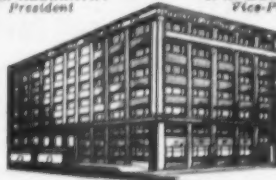
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Merchants & Transfer Sts., San Antonio 6
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Capacity—Free Switching—All Railroad Connections.

Represented by

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CHICAGO, ILL.

NEW YORK, N. Y.

... AST&T Examinations

(Continued from Page 131)

Under what circumstances is it in the public interest to adjust the rates of competitive carriers to modify service advantages or disadvantages? Against the public interest?

Explain in both cases.

11. The Commission has recently instituted an investigation of the railroad passenger service. In this connection answer three of the following:

a. As computed by the Commission, may the railroad "passenger service deficit" be partly a matter

of "bookkeeping"? Explain briefly.

b. Is it true, as sometimes alleged, that elimination of the "passenger service deficit" will solve the need of railroads for revenue? Explain briefly.

c. Under what revenue and cost circumstances should particular railroad passenger services be eliminated?

d. What legal or jurisdictional problems complicate the elimination of the "passenger service deficit"?

12. a. Define the term "subsidy," and state briefly how, if at all, each of the several types of transportation is or has been "subsidized."

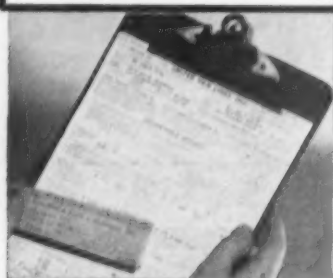
b. Explain briefly the relationship, if any, between "subsidy" and two of the following:

- 1) Developing and preserving inherent advantages;
- 2) Place discrimination;
- 3) Selective rate cutting;
- 4) Infant industry argument. •

(Resume Reading on Page 77)

September 20-21
Annual Meeting AST&T
San Francisco, Calif.

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POWER BELT CONVEYOR—Rapids Standard model, three years old, cost \$800 new, will sell for \$450. Also, curved conveyor section, stands, and stopper, cost \$110 new, will sell for \$50. Write Box 208, DISTRIBUTION AGE, Chestnut & 56th Sts., Philadelphia 39, Pa.

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even more in 1956!

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World's Largest "Deep Freeze" Boosts Food Handling Efficiency With Automatic Electric Trucks

Burrowing deep into a hillside near Kansas City, Inland Cold Storage Company's nine-acre "deep freeze" packs away up to 2500 carloads of foods in temperatures ranging from a cold $+38^{\circ}$ to a frigid -10° F. Nearly 100 more acres are also available for storing products which should be kept cool but not necessarily frozen. Here, insulated by hundreds of feet of solid rock the temperature is always 45° , winter and summer.

Everything is on the grand scale. While fifteen freight cars are being emptied deep inside this mammoth "ice box" at the platform pictured above, fifteen huge truck trailers are unloading at an outside dock. Fast work is needed to transfer that much frozen foods into storage without

danger and here Automatic Electric Trucks have proved indispensable. A particular favorite is the Automatic DOCKER seen in the foreground above. Designed especially for loading dock operations, the DOCKER is unrivalled for compactness, maneuverability—shortest overall length—lowest step height—fastest lift—highest grade clearance and shortest turning radius. A number of Automatic Skylifts also serve in various capacities as pictured on the right.

Your own plant may be ever so different but Automatic has the Trucks you need to serve you equally well. Write today for descriptive catalog of the complete Automatic line.

The three fork trucks above are, front to rear, two Automatic "Dockers" and an Automatic Skylift. The freight cars they are unloading stand on a railroad siding deep inside this vast "refrigerator" but directly connected with the main line outside. Fifteen cars at a time can be accommodated here.



Here, an Automatic Skylift is moving a pallet of chemicals from the outside loading dock into the constant temperature cold storage of huge underground cold storage plant.

Automatic

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WORLD'S LARGEST EXCLUSIVE BUILDER OF ELECTRIC-DRIVEN INDUSTRIAL TRUCKS

Circle No. 35 on Card, Facing Page 71, for more information